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ABSTRACT

Developmental Evaluation Services for Children (DESC) provides in-depth medical and educational diagnostic services for children in Montgomery County, Maryland, who are under 6 years of age and who are suspected of having handicapping conditions in two or more areas of development. This follow-up study was designed to determine the progress of students referred to DESC since 1976. Three types of data were collected: present placement and related special services received in 1982-83 by all Ss referred between 1976-1982; year-to-year placement histories on a sample of approximately half the Ss referred during 1977-78 and 1978-79; and in-depth case studies for a small sample of Ss (N=13). Findings addressed three major issues related to the clinic; appropriateness of the policy for acceptance for evaluation, most of the Ss evaluated by the clinic were found to be handicapped and to require special education for the next several years); stability of the diagnosis (evaluations were found to be comprehensive and accurate in identifying handicapping conditions and/or deficits in preschool Ss); and the effectiveness of early identification and intervention (almost 70% of the evaluated children were still in self-contained special education classrooms 5-6 years later). The existence of multiple impairments in many referred children affects the findings on intervention effectiveness. (CL)

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# Follow-up Study of Children Referred to Developmental Evaluation Services for Children (DESC)

November 1984

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MONTGOMERY COUNTY PUBLIC SCHOOLS
Rockville, Maryland

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# FOLLOW-UP STUDY OF CHILDREN REFERRED TO DEVELOPMENTAL EVALUATION SERVICES FOR CHILDREN (DESC)

by

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# EXECUTIVE SUMMARY

Developmental Evaluation Services for Children (DESC) provides in-depth medical and educational diagnostic services for children in Montgomery County who are under six years and have suspected handicapping conditions in two or more areas of development. DESC is jointly operated by the Montgomery County Public Schools (MCPS) and the County Health Department and was first established in 1976 through a grant from the U.S. Bureau of Education for the Handicapped.

The DESC follow-up study was designed to determine the progress of students who had been referred to DESC since 1976 (the first year of operation). The study collected three kinds of data.

1. The present placement and related special services received in 1982-83 by all children referred to DESC between 1976 and 1982 (N=1020) was determined through the use of the Computerized Educational Database System. Children evaluated and referrals who did not meet the criteria for a DESC evaluation were included.

2. Year-to-year placement histories on a sample of approximately half of the children referred during the years 1977-78 and 1978-79 (N=143) were collected through record reviews. The placements and the services provided for each year from the time of DESC referral to the present were documented.

3. In-depth case studies were developed for a small sample of children (N=13). Some of the children selected for the case studies exhibited changes in handicapping condition or intensity of service since contact with DESC, and some exhibited no changes.

The results of this investigation address three major issues related to DESC: 1) the appropriateness of the DESC policy for acceptance for evaluation, 2) the stability of DESC diagnosis, and 3) the effectiveness of DESC identification and early intervention.

## THE APPROPRIATENESS OF THE DESC POLICY FOR ACCEPTANCE FOR EVALUATION

The DESC procedures for determining whether or not to accept a child for an evaluation appear to be functioning appropriately insofar as most of the children accepted for evaluation were determined to be handicapped and required special services. Some of the children not accepted also required special services but the intensity of these services was less.

Between 1976 and 1982, 1020 children were referred to DESC, and approximately two-thirds received an evaluation. Children were accepted if they were five years of age or younger, were residents of Montgomery County, were not already enrolled in a special program, and were suspected of having delays in at least two developmental areas, e.g., speech and language, behavior, fine or gross motor, social, adaptive, cognitive, etc.

Certain trends were noted in the referral data:

- Between 1976 and 1982, there was an increasingly higher percentage of children accepted for evaluation, indicating that referrals were increasingly more appropriate.
- Boys were referred twice as often as girls.
- One-fourth of the referrals were minorities.

Many of the children evaluated by DESC were found to be handicapped and would continue to require special education for the next several years.

- Approximately 70% of the accepted children were diagnosed handicapped by the DESC evaluation.
- Of those evaluated by DESC for whom follow-up information was available, 78% were labelled as handicapped for the 1982-83 school year. The most frequently occurring handicapping conditions were: "speech and language impaired," "multiply handicapped," and "learning disabled."
- Over half of all the children evaluated by DESC since 1976 were in self-contained, special education classes in 1982-83.

The nonaccepted children tended to be less impaired subsequent to their DESC contact, receiving less restrictive services. Again, these findings support the appropriateness of the acceptance policy.

- Immediately following contact with DESC, only 13% of these children were receiving some type of special education services.
- Only 45% of those not accepted were labelled as handicapped, and approximately one-third were in self-contained special education classes in 1982-83, in contrast to the aforementioned higher numbers for the accepted group.
- The majority of children not accepted because of only one handicapping condition later exhibited only one or no handicapping condition.

Those children not accepted appear to have had disorders which could be adequately managed through other agencies or did not require multidisciplinary diagnostic services.

## STABILITY OF THE DESC DIAGNOSIS

Results suggest that the DESC evaluations were comprehensive and accurate in identification of handicapping conditions and/or deficits in the preschool population.

- Examination of the placement histories revealed that handicapping conditions in these children tended to remain fairly stable. The vast majority of children evaluated by DESC between 1977 and 1979 were found to retain their handicapping condition for at least two years and continued to have deficits in the areas identified at the time of the DESC evaluation.

- Children labelled by DESC as "speech and language impaired" were most likely to be considered nonhandicapped five to six years later. This discrepancy between initial and eventual handicapping condition is probably due to improvement or resolution of the impairment, rather than misdiagnosis on the part of DESC.

- With the exception of "speech and language impaired," almost three-fourths of handicapping conditions identified by DESC were associated with eventual special class placement five to six years following identification.

- Areas of need which were identified at the time of DESC evaluation generally persisted over a five- to six year period. Many areas considered to be of concern by DESC were not initially noted by service providers but gradually became so after several years. Such findings support DESC's ability to identify a variety of deficits, including more subtle impairments.

- Thirty percent of the children evaluated by DESC were considered "non-handicapped." Over half of this group were subsequently labelled as "learning disabled," "speech and language impaired," or a combination of the two. Most required special services generally within a regular classroom. These children highlight the problems of identifying in the preschool years an impairment which is most salient in the academic years and of formulating appropriate intervention prior to exposure to reading, math, and writing.

Given the uncertainties in the area of preschool assessment, particularly with regard to learning disabilities, a small percentage of "misses" seems unavoidable. Overall, it appears that DESC has been functioning well in its role of providing accurate, early diagnosis for young children.

## EFFECTIVENESS OF EARLY IDENTIFICATION AND INTERVENTION

It is generally hoped that the provision of services early in a handicapped child's life will result in a lessened need for services later. Such a hope was not substantiated in follow-up data: the population evaluated by DESC continued to require an intensive level of special education five to six years later.

A major purpose of diagnosing medical and developmental problems in a young child is to allow provision of special services which might improve the child's functioning. Although DESC has no control over what services are provided to the children it has diagnosed, the outcomes for these children have important policy implications for special education in the preschool and primary grades in MCPS. The follow-up data from this study directly address the question of what happens to children identified as handicapped before school age.

- Almost 70% of the children evaluated in their preschool years by DESC were still in a self-contained special education classroom five to six years later.

- When the placement histories from year to year were examined, they showed that 55% of the children required the same or a higher level of service since their preschool placement. Approximately one-fourth of the children required a less intense level of service three to five years after their DESC evaluation.

- Although some children reportedly made progress within these settings, as shown in the case studies, the severity of their impairments required a continued high level of services.

- For those who did move to less restrictive environments, adjusting to these regular classrooms was often difficult as illustrated by several of the case studies.

There are several possible explanations for the continued need for intensive special education services year after year. One is that early intervention does not effectively lessen the need for later services. Alternately, the DESC population may represent some of the more severely impaired preschool children in MCPS. Because of their multiple impairments, the need for services may extend over a longer period of time or even indefinitely. The need for less service in the primary grades as a function of early intervention may only be seen or be seen best with children whose problems are less severe.

In sum, much remains to be learned about the early identification and provision of special services to young children. Even given the many unknowns in this area, it appears that DESC has been successfully identifying a group of children, who based on the level of special education required, have serious impairments. Furthermore, the DESC diagnosis of the child's handicapping condition and areas of need is confirmed by professionals who work with the children later. Unfortunately, the majority of the children continue to require an intense level of service for a number of years after their DESC evaluations. This finding needs to be interpreted cautiously with regard to its implication for the effectiveness of early intervention because of the multiple impairments of the children evaluated by DESC. All of the evidence from the follow-up study, including the children's continued need for intensive special education, suggests that DESC has been functioning well as a facility for diagnosing preschool children with special needs.

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# INTRODUCTION

In a report to the Department of Health, Education, and Welfare, the American Orthopsychiatric Association emphasized the importance of diagnostic services for young children:

> The need for comprehensive developmental services aimed at identifying, diagnosing, and treating problems among our nation's children...is unquestioned by professionals in the various mental health disciplines. It has been demonstrated in innumerable studies, underscored by reports of White House Conferences on Children, and seems by now self-evident. (American Orthopsychiatric Association, 1978, p.7)

In Montgomery County, in-depth medical and educational diagnostic services for children under 6 with suspected handicapping conditions are available through Developmental Evaluation Services for Children (DESC). DESC is jointly operated by the Montgomery County Public Schools (MCPS) and the County Health Department. It was first established in 1976 as a grant from the Bureau of Education for the Handicapped. Over the three-year funding period, the project was to develop a protocol for evaluating and diagnosing handicaps and/or potentially handicapping conditions in young children. Early identification, in-depth medical and educational assessment, and subsequent referral to appropriate educational programs for young children having specific educational needs were the ultimate goals. The DESC project has continued as an interagency cooperative venture and is now in its ninth year of operation.

There are certain criteria a child must meet to be evaluated by DESC. To be eligible for an evaluation, a child must be a Montgomery County resident, between the ages of birth and five years, with suspected difficulties in two or more of the following areas: gross motor skills, fine motor skills, communication skills (hearing, language, speech), cognitive/intellectual skills, social-adaptive skills (behavioral) except for hyperactivity, and chronic medical problems. A hyperactive child must also have delays in two other areas (e.g., social adaptive and fine motor and gross motor). The "two-handicap" criterion was adopted during the first year of project operation as a mechanism to control the large number of requests for DESC evaluations.

The DESC follow-up study was designed to determine the progress of students who had been referred to DESC since 1976. Part 1 of this study involved determination of the present placement and related special services being received by all children referred to DESC. Children evaluated and children who did not meet the criteria for a DESC evaluation were included. The purpose of Part 2 of the study was to collect placement history information on a sample of children (approximately half) referred during the years 1977-78 and 1978-79. The placements and the services provided from the time of DESC referral to the present were documented. Finally, in Part 3, in-depth case studies were developed for a small sample of the children from those two years. Some of the children selected for the case study exhibited changes in handicapping condition or intensity of service since contact with DESC, and some exhibited no changes.

## Chapter One

## PRESENT PLACEMENT AND LEVEL OF SERVICE

Present level of service provides an overall indicator of how well children accepted and not accepted for evaluations by DESC from 1976 to 1982 are doing in an academic setting. Information on both groups of children, those accepted and those not accepted, was collected to document differences, if any, in current functioning and need for services.

All information on student status was obtained from the MCPS computerized pupil database and the Computerized Educational Data System (CEDS) in 1982, and it included the following: name, MCPS identification number, date of birth, race, sex, school identification code, current grade level, level(s) of service, program(s), handicapping condition, year of referral to DESC, and indication of acceptance or nonacceptance by DESC. Tables presenting these data are included in the text with additional tables in the appendices.

### DESC REFERRALS: TOTALS AND GENERAL CHARACTERISTICS

Between 1976 and 1982, 1,020 individuals were referred to DESC (Table 1). Approximately two-thirds of these children were accepted for evaluation. For each year of DESC operation, more than half of all referrals were accepted, with almost three-fourths of the referrals accepted for evaluation in 1982.

The number not accepted for evaluation dropped steadily over the six-year period, from a high of 237 in 1978-79 to lows of 137 and 139 in 1980-81 and 1981-82. The number of referrals also dropped steadily. The decrease appears to reflect more appropriate referrals, probably due to more stringent criteria for acceptance and referral sources' increased awareness of the types of children most appropriate for evaluation. For example, in 1978-79, almost half the referrals were rejected for evaluation compared to 1981-82 when 27% were rejected. Thus, this decrease can be viewed in a positive light: fewer inappropriate referrals are being made, allowing staff to spend increased time with the other children.

Boys were referred almost twice as often as girls over the six-year period (Appendix A, Table A-1). This is not surprising, in view of the increased frequency in males of handicapping conditions such as autism, learning disabilities, and developmental language disorders (Satz and Zaide, 1983). Approximately one-fourth of all referrals were minority (Appendix A, Table A-2). The percentage of referrals to DESC within each ethnic category reflected the racial distribution within Montgomery County.

Males and females tended to be accepted and not accepted at an equivalent rate (Appendix A, Table A-3). Minority children were slightly more likely to be accepted for evaluation than white, non-Hispanic children (Appendix A, Table A-4). Minority children constituted one-fourth of those accepted for evaluation but only 16 percent of those not accepted.

## TABLE 1

### Number of DESC Referrals (Accepted and Not Accepted) by Year of Referral

| | Year of Referral | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1977 | | 1978 | | 1979 | | 1980 | | 1981 | | 1982 | | |
| | N | % | N | % | N | % | N | % | N | % | N | % | Total |
| Accepted for evaluation | 121 | | 139 | 63 | 120 | 51 | 109 | 66 | 88 | 64 | 101 | 73 | 678 |
| Not accepted for evaluation | 0[a] | | 81 | 37 | 117 | 49 | 57 | 34 | 49 | 36 | 38 | 27 | 342 |
| TOTAL | 121 | | 220 | | 237 | | 166 | | 137 | | 139 | | 1020 |

[a] Information not available for number of children not accepted for evaluation in 1977.

## AVAILABILITY OF CURRENT STATUS INFORMATION ON ALL DESC REFERRALS

Of the 1,020 DESC referrals between 1976 and 1982, follow-up data were available on 63% (N=639), with 36% of the referrals lost to follow-up (those no longer enrolled in MCPS or those who apparently never had been), and 1% with inaccurate CEDS data (Table 2). Not surprisingly, there was follow-up information available on a higher percentage of the more recent referrals. For example, information was available for only 54% of those referred during 1976-77 but was available for 70% of those referred during 1981-82. This reflects the increased likelihood of families leaving the county with the passage of time. In addition, there was a noted improvement in the record-keeping system at DESC, particularly for individuals not accepted for evaluation, which increased the probability of identifying those with a previous contact with DESC. Follow-up information was available on 63% (N=430) of those evaluated by DESC and on 61% (N=209) of those not accepted for evaluation.

## DESC REFERRALS: THE NEED FOR SEPARATION OF ACCEPTED AND NOT ACCEPTED

As noted above, children had to have suspected handicaps in at least two developmental areas to be accepted for a DESC evaluation. These criteria might suggest that the children who were accepted for evaluation were more severely impaired than those who were not. However, children were also not accepted for evaluation for a variety of other reasons including having only one apparent handicapping condition, living outside of Montgomery County, being schoolage, or having a previously adequate assessment. Thus, the handicapping conditions of such children could be quite similar to those in the accepted group.

In addition, a child with two or more handicapping conditions was not necessarily more severely impaired than a child labelled with only one handicapping condition. For example, while a child may have been rejected for only one handicapping condition, that handicapping condition might have been severe, for example, mental retardation.

Because of incomplete records on individuals not accepted in the early days of DESC operation and because a DESC evaluation was not done on these children, there is less known about them than about the children evaluated by DESC. The information that is available suggests that the children not accepted for evaluation are a heterogeneous group which includes severely impaired, mildly impaired, and normal children.

Because of this heterogeneity and the sparse information on the nonaccepted group, all subsequent analyses were performed separately for the accepted and nonaccepted children. It is interesting to compare the progress of these two groups of children, as a "check" of the appropriateness of the nonacceptance. However, given the heterogeneity of the nonaccepted group, interpretations of any differences between those accepted and those not accepted for evaluation will be difficult.

## TABLE 2

### Availability of Information on DESC Referrals

| | Year of Referral | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1977 | | 1978 | | 1979 | | 1980 | | 1981 | | 1982 | | | |
| | N | % | N | % | N | % | N | % | N | % | N | % | Total | % |
| Follow-up data available | 65 | 54 | 125 | 57 | 149 | 63 | 115 | 69 | 88 | 64 | 97 | 70 | 639 | 63 |
| Lost to follow-up[a] | 56 | 46 | 93 | 42 | 86 | 36 | 49 | 30 | 44 | 32 | 37 | 27 | 365 | 36 |
| CEDS data inaccurate[b] | 0 | | 2 | 1 | 2 | 1 | 2 | 1 | 5 | 4 | 5 | 3 | 16 | 1 |
| TOTAL | 121 | | 220 | | 237 | | 166 | | 137 | | 139 | | 1020 | |

[a] Lost to follow-up: Subjects who are no longer enrolled in MCPS, or never were.

[b] CEDS data inaccurate: Available information obviously inaccurate (e.g., classified as grade level "Special," i.e., Level 4 or higher, but most intense level of services is Level 2).

## HANDICAPPING CONDITION

Of the 430 children evaluated by DESC, for whom follow-up data were available, 78% (N=334) received special services in 1982-83. Of the 209 not accepted for evaluation, 45% (N=95) received services for that year. The current handicapping conditions of the two groups were remarkably similar, with speech and language impaired, multiply handicapped, and learning disabled being the most frequent conditions in both groups (Table 3).

Of interest is the fact that 20% of those children not accepted for evaluation by DESC had a current handicapping condition of "multiply handicapped." This, of course, implies the presence of two handicapping conditions. If both these problems existed at the time of the DESC contact and the child was rejected for this reason,[1] then he or she should have been accepted for an evaluation. A problem may lie in part with the referral source, particularly parents. By allowing that source to describe what and how many deficits a child might have, problems may have been overlooked. Obviously, an incorrect description of a child's problems could result in inappropriate rejection. An alternative explanation is that additional problems emerged as the child got older and entered school.

This trend of a high proportion of speech/language impaired, learning disabled, and multihandicapped children was stable across the years of DESC referrals (Table 4). The first year of DESC operation was the only year in which children currently labelled as "mentally retarded" represented a large proportion of the accepted group. This may be explained in part by the fact that some children already in special preschool programs were evaluated during that year. Such children were not accepted for evaluation in subsequent years. Both accepted and nonaccepted children were much more likely to be labelled as "learning disabled" the further they were from their initial contact with DESC. The more recent referrals were still preschool children.

Children in the nonaccepted group were more frequently later labeled as learning disabled (34%) than those in the accepted group (25%). This disability is not often identified until entrance into elementary school, past the cutoff age for DESC acceptance. From a prognostic point of view, this finding suggests that children eventually labelled as learning disabled may be sending up "red flags" in the preschool years. For this group, those signals resulted in referrals for evaluation. However, given they were not accepted for an evaluation, it is possible their impairments were apparently not severe, firm enough, or sufficient in number to warrant testing at that time. (Alternately, these children may have not been accepted for other reasons.) Also, currently, controversy exists regarding the identification of LD students at school age where there appears to be overidentification taking place.

## LEVEL OF SERVICE AND PROGRAM PLACEMENT

Table 5 presents the status with regard to special education placement in 1982-83 of the 639 children for whom follow-up data were available. Of

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1. Reason for rejection was not available for this analysis.

## TABLE 3

### Handicapping Conditions in 1982-83 by Accepted/Not Accepted

| Handicapping Condition | Accepted |  | Not Accepted |  |
|---|---|---|---|---|
|  | N | % | N | % |
| Speech/Language Impaired | 83 | 25 | 25 | 26 |
| Mentally Retarded | 30 | 9 | 7 | 7 |
| Hearing Impaired | 6 | 2 | 1 | 1 |
| Visually Impaired | 4 | 1 | 3 | 3 |
| Emotionally Disturbed | 10 | 3 | 3 | 3 |
| Learning Disabled | 82 | 25 | 32 | 34 |
| Orthopedically Handicapped | 7 | 2 | 2 | 2 |
| Multihandicapped | 98 | 29 | 19 | 20 |
| Other[a] | 14 | 4 | 3 | 3 |
| TOTAL | 334 |  | 95 |  |

Note: Includes only children receiving special services (N=429).

[a] Subjects classified as "Other" in this and subsequent analyses are not handicapped but are receiving some type of service in MCPS, such as Chapter 1, Reading, ESOL.

## TABLE 4

### Handicapping Conditions in 1982-83 by Year of DESC Referral

| Handicapping Condition | 1977 Accept N | 1977 Accept % | 1977 Not N | 1977 Not % | 1978 Accept N | 1978 Accept % | 1978 Not N | 1978 Not % | 1979 Accept N | 1979 Accept % | 1979 Not N | 1979 Not % | 1980 Accept N | 1980 Accept % | 1980 Not N | 1980 Not % | 1981 Accept N | 1981 Accept % | 1981 Not N | 1981 Not % | 1982 Accept N | 1982 Accept % | 1982 Not N | 1982 Not % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Speech/ Language Impaired | 5 | 8 | - | | 6 | 12 | 1 | 4 | 13 | 22 | 12 | 32 | 15 | 24 | 7 | 44 | 15 | 37 | 5 | 45 | 29 | 44 | 0 | 0 |
| Mentally Retarded | 18 | 30 | - | | 4 | 8 | 2 | 8 | 5 | 9 | 1 | 3 | 2 | 3 | 1 | 6 | 0 | 0 | 1 | 9 | 1 | 2 | 2 | 33 |
| Hearing Impaired | 2 | 3 | - | | 1 | 2 | 1 | 4 | 1 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Visually Impaired | 1 | 2 | - | | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 9 | 2 | 3 | 1 | 17 |
| Emotionally Disturbed | 3 | 5 | - | | 3 | 6 | 1 | 4 | 2 | 3 | 2 | 5 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Learning Disabled | 20 | 33 | - | | 22 | 42 | 12 | 50 | 12 | 21 | 14 | 37 | 17 | 27 | 6 | 38 | 5 | 12 | 0 | 0 | 6 | 9 | 0 | 0 |
| Orthopedically Handicapped | 0 | 0 | - | | 2 | 4 | 1 | 21 | 1 | 2 | 1 | 3 | 2 | 3 | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| Multi-handicapped | 11 | 18 | - | | 14 | 27 | 4 | 17 | 24 | 41 | 8 | 21 | 21 | 34 | 2 | 13 | 12 | 29 | 4 | 36 | 16 | 24 | 1 | 17 |
| Other | 0 | 0 | - | | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 4 | 10 | 0 | 0 | 8 | 12 | 2 | 33 |
| TOTAL | 60 | 0 | - | | 52 | | 24 | | 58 | | 38 | | 62 | | 16 | | 40 | | 11 | | 62 | | 16 | |

## TABLE 5

### Most Intense Level of Service in 1982-83 by Accepted/Not Accepted

| Placement for 1982 - 1983 | Accepted | | | Not Accepted | | |
|---|---|---|---|---|---|---|
| | N | %[a] | %[b] | N | %[a] | %[b] |
| No Special Services | 96 | 22 | | 114 | 55 | |
| Level 1 | 2 | 0 | 1 | 3 | 1 | 3 |
| 2 | 52 | 12 | 16 | 19 | 9 | 20 |
| 3 | 28 | 7 | 8 | 14 | 6 | 15 |
| 4 | 105 | 24 | 31 | 25 | 12 | 26 |
| 5 | 142 | 33 | 43 | 34 | 16 | 36 |
| 6 | 3 | 0 | 1 | 0 | | |
| 7 | 2 | 0 | 1 | 0 | | |
| TOTAL | 430 | | | 209 | | |

[a] Including subjects who are not receiving any special services.

[b] Excluding subjects who are not receiving any special services.

those accepted for a DESC evaluation, approximately 22% were receiving no special services; about 20% were receiving consultative, itinerant, or resource room assistance (i.e., Levels 1, 2, or 3); and almost 60% were currently in self-contained special education classes, alternative centers, or nonpublic programs (i.e., Levels 4 and above). In contrast, 55% of those not accepted for evaluation by DESC were receiving no special services; about 16% were receiving consultative, itinerant, or resource room assistance; and 34% were currently in self-contained special education classes. Appendix A-5 provides a breakdown of these results by program for 1982-83.

When the level of service for only those who were receiving special services is examined, it can be seen that well over half the children in each group were in Level 4 or 5 placements (76% of those accepted; 62% of those not accepted). While overall, the group of children evaluated by DESC presently requires more intensive special services, a subgroup within the rejected children appears as impaired as the accepted group. This is consistent with the fact that children with significant but single handicaps or children already enrolled in a program were generally not accepted for evaluation. These children would nevertheless require intensive special assistance.

The percentage of nonaccepted children not receiving any special services has remained high, above 50%, across the years of DESC operation (Table 6). In contrast, those accepted for evaluation were more likely to be in some type of self-contained classroom in subsequent years.

If the data showed a relationship between year of evaluation and need for special services, with the children who were evaluated least recently now requiring the least service, they could be interpreted as support for the importance of early identification (i.e., those children identified as preschoolers do require fewer services later). There appears, however, to be no consistent trend between year of DESC evaluation and percentage of children now in regular education. The lack of such a relationship can be interpreted in several ways. Possibly, the population of children evaluated by DESC in its early years was different from those evaluated more recently and thus any year-to-year comparisons are inappropriate. Possibly, the children's handicapping conditions were such that it will take a number of years before they will require less intensive service. Possibly, early identification has not ameliorated the children's problems. All of these explanations are consistent with the data, and there is no basis on which to decide among them. Although the data do not provide evidence for the efficiency of early identification and intervention, it cannot be unequivocably interpreted as evidence against it either. It is impossible to know how these students would be doing now had they not been diagnosed by DESC.

The follow-up data indicate that DESC has evaluated children who need intensive special education services in later years. The majority of children evaluated by DESC in their preschool years required self-contained educational programs of one to five years after identification.

## TABLE 6

### Level of Service in 1982-83 by Year of DESC Referral

| | Year of DESC Referral | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1977 | | | | 1978 | | | | 1979 | | | | 1980 | | | | 1981 | | | | 1982 | | | |
| | Accepted | | Not Accepted | | Accepted | | Not Accepted | | Accepted | | Not Accepted | | Accepted | | Not Accepted | | Accepted | | Not Accepted | | Accepted | | Not Accepted | |
| | N | % | N | % | N | % | N | % | N | % | N | % | N | % | N | % | N | % | N | % | N | % | N | % |
| No Special Services | 5 | 8 | – | – | 25 | 33 | 24 | 50 | 17 | 23 | 36 | 49 | 16 | 21 | 21 | 57 | 19 | 32 | 18 | 62 | 14 | 18 | 15 | 71 |
| Level 1 | 0 | – | | | 1 | 1 | 0 | – | 0 | – | 1 | 1 | 0 | – | 0 | – | 0 | – | 1 | 3 | 1 | 1 | 1 | 5 |
| 2 | 7 | 11 | | | 4 | 5 | 4 | 8 | 7 | 9 | 9 | 12 | 15 | 19 | 4 | 11 | 11 | 19 | 2 | 7 | 8 | 11 | 0 | – |
| 3 | 4 | 6 | | | 10 | 13 | 5 | 10 | 3 | 4 | 6 | 8 | 4 | 5 | 3 | 8 | 3 | 5 | 0 | – | 4 | 5 | 0 | – |
| 4 | 22 | 34 | | | 16 | 21 | 7 | 15 | 16 | 21 | 11 | 15 | 20 | 26 | 6 | 16 | 13 | 22 | 0 | – | 18 | 24 | 1 | 5 |
| 5 | 25 | 39 | | | 20 | 26 | 8 | 17 | 32 | 43 | 11 | 15 | 23 | 29 | 3 | 8 | 11 | 19 | 8 | 28 | 31 | 41 | 4 | 19 |
| 6 | 2 | 3 | | | 1 | 1 | 0 | – | 0 | – | 0 | – | 0 | – | 0 | – | 0 | – | 0 | – | 0 | – | 0 | – |
| 7 | 0 | – | | | 0 | – | 0 | – | 0 | – | 0 | – | 0 | – | 0 | – | 2 | 3 | 0 | – | 0 | – | 0 | – |

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## SUMMARY

Of the 1,020 individuals referred to DESC between 1976 and 1982, approximately two-thirds received an evaluation. This trend was not stable over the years. In the early years of DESC operation, a larger percentage of referrals was not accepted for evaluation. The decreasing percentage of children not accepted probably reflects an increase in more appropriate referrals. Boys were referred twice as often as girls and accepted at the same proportionately high rate. Approximately one-fourth of the referrals were minorities. Minorities were slightly more likely to be accepted for an evaluation than were nonminority children.

Follow-up information was available on 63%, or 639 children. Two-thirds of these children had been evaluated by DESC. Of the children with follow-up data, 78% of those evaluated had a handicapping condition in 1982-83; whereas only 45% of those not evaluated were labelled during that school year. Handicapping conditions were similar between the children accepted and not accepted for DESC evaluation, with speech and language impairment, multiply handicapped, and learning disabilities being the most frequently occurring current handicapping condition in both groups.

Over half the children evaluated by DESC over the years were in self-contained, special education classes in 1982-83. In contrast, approximately one-third of those not accepted for evaluation were in such placements. The nonaccepted group was much more likely not to be receiving any special services in contrast to the accepted group. There was little indication that those evaluated by DESC less recently were in less restrictive environments than those evaluated most recently. Almost 50% of those evaluated by DESC in the first year of operation were in self-contained placements at the time of the most recently available information. All of these children were currently labelled either as "multihandicapped" or had two or more handicapping conditions specified.

## Chapter Two

# EDUCATIONAL HISTORIES OF A SUBGROUP OF DESC REFERRALS

The educational histories of a sample of children accepted and not accepted for evaluation by DESC during 1977-78 and 1978-79 were assembled. "Educational histories" refer to the child's handicapped classification and placement for each year since his or her referral to DESC. These years represented the second and third year of the facility's operation and provided an opportunity for the greatest amount of follow-up data without entering the ambiguities of the facility's first year. Follow-up information provided documentation of changes in the children's placements, including possible indications of a lessening of need for service and particular trends in the evolution of handicapping conditions.

One-half of the children referred to DESC during the aforementioned time periods were randomly selected from each year. Any child selected for whom follow-up data were not available was replaced by another child. The school records of each child were then reviewed using an extensive record review form. Information which was collected included the following:

1. Personal data for child: name, sex, race, date of birth, citizenship
2. Demographic data for family: level of education, occupation, language spoken in the home
3. DESC data: acceptance/nonacceptance, year of initial contact, handicapping condition, areas of need, and DESC recommendations for child
4. Post-DESC services: evaluations within one year of contact with DESC, ARD/CARD meeting, recommended program and level of service
5. Placement history (for each year from the time of initial contact with DESC to present): date of enrollment; level of service, program, and group code; school; subjects in which mainstreamed if any; disability code; areas of need
6. Psychological testing: date, source, IQ source

## DESCRIPTIVE DATA: FOLLOW-UP SAMPLE

Of the 143 randomly selected children, 80 had been accepted for evaluation, 63 had not. Table 7 presents descriptive information regarding these individuals. These data were collected from the DESC evaluation report, intake information or elementary school records. Certain trends were consistent across the groups. Almost three-fourths of the children in each group were males. Less than one-third of the subjects were minority, with blacks comprising almost half of that group. Virtually all children were U.S. citizens and had English as their primary language.

Factors related to home environment at the time of initial contact with DESC were compared between those accepted for evaluation and those not accepted. For virtually all children accepted for evaluation, a female guardian was

## TABLE 7

### Descriptive Data on Sample of 143 Children

| | Accepted (N=80) | | Not Accepted (N=63) | |
|---|---|---|---|---|
| | N | % | N | % |
| % male | 58 | 73 | 44 | 70 |
| % minority | 21 | 26 | 13 | 21 |
| % of minority; black | 14 | 67 | 7 | 54 |
| % English speakers | 76 | 95 | 58 | 92 |
| % U.S. citizen | 77 | 95 | 59 | 94 |
| | Based on N of | Mean | Based on N of | Mean |
| Mother's education: [a]mean | 56 | 3.0 | 43 | 2.9 |
| Mother's occupation: [b]mean | 35 | 3.9 | 34 | 3.8 |
| Father's education: [a]mean | 49 | 2.6 | 36 | 2.4 |
| Father's occupation: [b]mean | 58 | 2.9 | 45 | 2.9 |

[a] Using Hollingshed's scale (1956) where 1 = graduate professional training and 7 = less than 7 years of school.

[b] Using Hollingshed's scale (1956) where 1 = executives and proprietors of large concerns and 8 = unemployed.

present in the home at the time of initial contact. Fathers were less likely to be. Approximately 20% (N=16) of those children evaluated by DESC had no male guardian in the home at the time of evaluation.

By and large, this information was not available for those not accepted for evaluation by DESC. Fifty-eight of 62 records did not contain information about female and male guardians in the home at the time of initial contact with DESC. This is to be expected because the source of this information for those accepted by DESC generally was the DESC evaluation report.

Information regarding mother's level of education at the time of DESC contact was available for almost 70% of both children accepted and not accepted for evaluation. Level of education was rated on a seven-point scale, from 1 (graduate professional training) to 7 (less than seven years of school) (Hollingshed, 1957). The mean level of education for mothers in both groups was approximately 3.0, or partial college training. In contrast, the level of education for fathers was slightly higher, with a mean level of approximately 2.5 (partial college training to standard college graduation) for both children accepted for evaluation and those not accepted.

Information on mother's occupation at the time of initial contact with DESC was available on approximately one-half of the children. The Hollingshed scale (1957), a seven-point rating scale of various occupations (with 1 being the highest) was used. The mean level of maternal occupation for both the accepted and not accepted groups was at and around 4, or technician level. For fathers, level of occupation was higher with a mean of 2.9 (managers to administrators) for both the accepted group and the nonaccepted.

The ages at time of DESC evaluation are presented in Table 8 (Mean=44 months). The data in Table 8 suggest that despite the availability of a comprehensive diagnostic facility for very young children, most were referred after age 3. Ages of those not accepted for evaluation was higher than those accepted (Mean=53 months). This was not unexpected, in that one of the reasons a child might not be accepted for evaluation was that he/she was over the DESC age requirement.

## RESULTS

### Children Accepted for DESC Evaluation

Results of the DESC evaluation were available on 79 of the 80 children evaluated by DESC between 1977 and 1979 and are provided in Table 9.[1] Of these 79 children, 70% (N=55) were determined by the diagnostic agency to have handicapping conditions. The largest proportion of children were diagnosed as speech and language impaired (23% of those evaluated). Placement in a special program was recommended for the majority (63%).

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[1] One child's records were purged by his parents.

## TABLE 8

### Age at Time of Contact with DESC (N=143)

| DESC Status and Age | N | % |
|---|---|---|
| Accepted for Evaluation (N=80) | | |
| 0-11 months | 1 | 1 |
| 12-23 months | 8 | 10 |
| 24-35 months | 12 | 15 |
| 36-47 months | 17 | 21 |
| 48-59 months | 27 | 34 |
| 60 or more months | 14 | 18 |
| Mean age: 44 months | | |
| Not Accepted for Evaluation (N=63)[a] | | |
| 0-11 months | 0 | 0 |
| 12-23 months | 1 | 2 |
| 24-35 months | 5 | 8 |
| 36-47 months | 13 | 21 |
| 48-59 months | 12 | 19 |
| 60 or more months | 32 | 51 |
| Mean age: 53 months | | |

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[a] Although date of birth was available on most children not accepted for evaluation, the exact date of nonacceptance was not. Children were grouped by the diagnostic agency into "those not accepted in 1977-78" or "1978-1979." Thus, age at time of contact is a rough estimate: their year of birth minus the year of contact.

## TABLE 9

### Results of DESC Evaluation (N=79)

| | N | % |
|---|---|---|
| **Year of Evaluation** | | |
| May 1977 to June 1978 | 41 | 52 |
| July 1978 to June 1979 | 38 | 48 |
| **Handicapping Condition** | | |
| Handicapping Condition Assigned | | |
| Developmentally Delayed | 11 | 14 |
| Mentally Retarded | 6 | 8 |
| Hearing Impaired | 3 | 4 |
| Speech/Language Impaired | 18 | 23 |
| Emotionally Impaired/Behavior Disordered | 5 | 6 |
| Orthopedically Impaired | 2 | 3 |
| Multiply Handicapped | 10 | 13 |
| Not Handicapped | 24 | 30 |
| **Recommendations** | | |
| No services[a] | 11 | 14 |
| Itinerant services | 15 | 19 |
| Special program placement | 51 | 63 |
| Information not available | 2 | 3 |

[a] Although 24 children were found to be not handicapped, the diagnostic agency recommended services for some of these children. Hence, the discrepancy between the number found to be not handicapped and the number recommended for services.

## Children Initially Diagnosed as Handicapped

The discussion will focus first on the placement histories of the 55 children diagnosed as handicapped. Table 10 indicates that 74% of the 55 (N=41) entered a special education program or received special services within the year following their evaluation. There was nothing in the records to indicate that the remaining 14, or 26% of those children identified by DESC as handicapped, received any services within that year. Possible explanations for this are that the parents did not follow up on the recommendation for service or that the child actually received service but that the documentation had been lost. As children moved further away from the time of identification, a higher percentage received special services so that three to five years later, over 90% of the children were receiving services. Three-fourths of the children initially identified as handicapped were in special classes five to six years following identification.

To examine the placement trends from year to year, the placement histories of the 55 children found to be handicapped were classified into one of the five following categories:

1. Never received any services
2. Movement to a less restrictive placement
3. Movement to more restrictive placements, i.e, required more intensive service
4. Maintenance of same level of service, i.e., showed no change
5. Showed a mixed pattern such as going down one year and up the next

Movement to a less restrictive environment could be from a special program to special classes within a regular elementary, from a special class to resource room support, from resource to itinerant support, or from itinerant to consultative support. Table 11 shows the percentage of children in each of these categories. Of those children identified as handicapped in their initial evaluation, 24% (N=13) had since moved to a less intensive level of service. Fifty-five percent (N=30) remained in the same setting or required more intensive services three to five years later and 18% (N=10) fluctuated. Although the need for less intensive service was not found for a majority of the children, one-fourth had improved to such an extent that they could now be served in a less restrictive setting.

Table 12 presents the handicapping conditions for these children five to six years after their DESC evaluation. Children were most frequently (67%) labelled as "multihandicapped" (N=37). This represents a notable increase in those so labelled at the time of DESC (13%). The percentage considered nonhandicapped had dropped from 30% to 9%.

The handicapping condition of each child was determined for each year of service in order to document shifts in administrative perception of the child's handicap. Thirty-four children were initially seen by DESC as having a single handicapping condition, ten were diagnosed multihandicapped, and ten were classified as developmentally delayed. Of the 34 children with a single initial handicapping condition, 82% retained their original labels

TABLE 10

Children (N=55) with Initial Handicapping Conditions:
Subsequent Special Services and Placements

| | Years After Evaluation | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | One Year | | Two Years | | Three Years | | Four Years | | Five Years | | Six Years[a] | |
| Placement and Services | N | % | N | % | N | % | N | % | N | % | N | % |
| In regular class, no services | 1 | 2 | 2 | 4 | 4 | 7 | 3 | 5 | 4 | 7 | 3 | 19 |
| Not of school age, not in placement | 5 | 9 | 2 | 4 | 0 | - | 0 | - | 0 | - | 0 | - |
| Consultative, itinerant resource services | 5 | 9 | 4 | 7 | 8 | 15 | 12 | 22 | 10 | 18 | 2 | 13 |
| Special class or special school | 36 | 65 | 42 | 76 | 41 | 75 | 39 | 71 | 41 | 75 | 11 | 69 |
| Unknown[b] | 8 | 15 | 5 | 9 | 2 | 4 | 1 | 2 | 0 | - | 0 | - |

[a] For only those children (N=16) evaluated in 1977-1978.

[b] Children who were of school age, but for whom there was no information regarding placement during that year.

## TABLE 11

### Children with Initial Handicapping Conditions (N=55): Changes in Services Over a Five- to Six-Year Period

| Movement | N | % |
|---|---|---|
| Never in any services | 2 | 4 |
| Movement to less restrictive environments | 13 | 24 |
| Movement to more restrictive environments | 12 | 22 |
| Maintenance of same level of service | 18 | 33 |
| Fluctuations in level of service | 10 | 18 |

[a] Percentage column totals more than 100 because of rounding.

## TABLE 12

## Current Handicapping Condition of Children with Initial Handicapping Condition

(N=55)

| Handicapping Condition | N | % |
|---|---|---|
| Not Handicapped | 5 | 9 |
| Mentally Retarded | 0 | - |
| Auditory Impairment | 2 | 4 |
| Speech and Language Impaired | 6 | 11 |
| Visually Impaired | 0 | - |
| Seriously Emotionally Disturbed | 1 | 2 |
| Orthopedically Impaired | 0 | - |
| Other Health Impaired | 0 | - |
| Specific Learning Disability | 4 | 7 |
| Multihandicapped[a] | 37 | 67 |

[a] "Multihandicapped" includes those children labelled as such and those who had more than one handicapping condition.

for at least two or more subsequent years, with or without additional handicaps identified. Such findings suggest accurate early identification of deficits. Only 15% (N=5) had been classified as not handicapped for at least two years, indicative of persisting deficits in most of this population. For the ten children originally classified as "multi-handicapped," 80% retained that label for two or more years, and none were ever considered nonhandicapped.

Because "developmentally delayed" is not used within the state of Maryland as a handicapping condition but was used by DESC, the evolution of disabilities in this particular group was considered separately. Ten of the 11 children initially labelled "developmentally delayed" were subsequently labelled as having other disabilities. They were most frequently multi-handicapped (N=4) or speech and language impaired (N=3).

As indicated in Table 13, children identified by DESC as having one or more handicapping condition were most likely to be in a special class in 1982-83 regardless of what that handicap was. Thus, in this study, disabilities identified in the preschool years were not associated with varying outcomes. Children with a variety of disabilities continued to require intensive special education five to six years following identification.

## Children Diagnosed as Not Handicapped

It will be recalled that 24 children were considered to be nonhandicapped at the time of their initial evaluation. As indicated in Table 14, almost 60% were labelled as handicapped in 1982-83. To further explore this subsequent classification, their disabilities, if any, from year to year were ascertained. Only 25% (N=6) of these children have never been judged to be handicapped since their DESC evaluation. Over 50% received labels of learning disabled (N=9), speech and language impaired (N=1), or a combination of the two (N=2) for one or more years. However, of these 12 children, six were so labelled for two or less years, indicating either the transient nature or late emergence of the impairment.

As indicated in Table 15, over 80% (N=20) of the children determined to be not handicapped at the time of initial evaluation were found to require special education services at some point during the subsequent five- to six-year period. The majority of children had required or currently were receiving services which could be provided within a regular classroom setting such as itinerant or resource support. The placement data suggest that these children although later found to be handicapped were only mildly to moderately impaired.

The subsequent difficulties of these children are a problematic finding for early identification. Although these children displayed behaviors which warranted an initial DESC evaluation, neither test results nor clinical judgments were sufficient to identify a handicapping condition. Possibly, the diagnostic procedures missed a problem; or, alternatively, while these children may have been unusual in some way, their peculiarities did not constitute a true handicap until they entered an academic setting which placed new demands on them. The fact that so many of these children were later labelled "learning disabled" is consistent with both of these hypotheses.

## TABLE 13

### DESC Handicapping Condition and Level of Service in 1982-83 (Five to Six Years After Identification) (N=55)

| | Level of Service in 1982-83 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DESC Handicapping Condition | No Services | | Consultative | | Itinerant | | Resource | | Special Class, Regular School | | Special School | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| Mentally Retarded (N=6) | | | | | | | | | 2 | 33 | 4 | 66 |
| Hard of Hearing/Deaf (N=3) | | | | | | | | | 1 | 33 | 2 | 66 |
| Speech and Language Impaired (N=18) | 4 | 22 | 2 | 11 | | | 3 | 17 | 2 | 11 | 7 | 39 |
| Emotionally Impaired/ Behavior Disordered (N=5) | 1 | 20 | | | | | | | | | 4 | 80 |
| Orthopedically Impaired (N=2) | | | | | | | | | 1 | 50 | 1 | 50 |
| Developmentally Delayed (N=11) | 1 | 9 | 2 | 18 | | | | | 5 | 45 | 3 | 27 |
| Multihandicapped (N=10) | | | 1 | 10 | | | | | 4 | 40 | 5 | 50 |

## TABLE 14

### Handicapping Condition in 1982-83 of Those Children Labelled Nonhandicapped at DESC Evaluation (N=24)

| Areas of Need | N | % |
|---|---|---|
| Not handicapped | 9 | 38 |
| Services being received, handicapping condition unknown | 3 | 13 |
| Learning disabled | 5 | 21 |
| Learning disabled/Speech and language impaired | 3 | 13 |
| Speech and language impaired | 2 | 8 |
| Multihandicapped | 1 | 4 |
| Lost to follow-up | 1 | 4 |

## TABLE 15

### Children (N=24) Initially Labelled as "Not Handicapped": Subsequent Special Services and Placements

| | Highest Level of Services Received to Date | | Level of Services in 1982 -83 | |
|---|---|---|---|---|
| | N | % | N | % |
| No Special Services | 4 | 17 | 7 | 29 |
| Consultative/Evaluations | 0 | - | 2 | 8 |
| Itinerant | 7 | 29 | 6 | 25 |
| Resource | 9 | 38 | 6 | 25 |
| Special Class, Regular School | 2 | 8 | 2 | 8 |
| Special School | 2 | 8 | 1 | 4 |
| Unknown | | | | |

Note: As indicated in Table 8, nine of these children had never been labelled handicapped; and only seven of them had also never received special services. Two had evaluations only.

## Areas of Need in Children Evaluated by DESC

Descriptions of needs at the time of DESC evaluation were available on 79 of the 80 children evaluated. Information was collected on a variety of areas of need. Main areas were the following:

- Speech and language
- Intellectual development
- Reading, math, motor skills
- Visual perception
- Self-help skills
- Self-concept
- Social-emotional development
- Work habits (i.e., motivation, completing work, working independently, etc.)

Needs data were collected from DESC evaluation reports and subsequent school records, including evaluations, IEP information, and progress reports. These data thus are limited by the content of the school records, the interests and insights of teachers and examiners, and the degree to which a child's performance and needs were documented. If a child was not considered handicapped, there was no consistent source of need data; and thus for purposes of these analyses, the child had no needs in any areas.

As indicated in Table 16, 76% (N=60) of the children evaluated by DESC had speech and langunge deficits at the time of evaluation, with motor needs nearly as frequent (72%). Almost half were considered to have social-emotional needs (48%) and deficits in the area of work habits (47%). Not surprisingly, in view of the age at evaluation, few children were noted to have needs in academic areas (reading, writing, and math). In 1982, five to six years after evaluation, the occurrence of needs in the 79 children evaluated by DESC had increased dramatically in academic and school performance areas. However, speech and language and motor deficits remained the most frequent impairments in this group. Such results suggest several things: 1) DESC was accurate in identifying areas of need in these children, 2) there was an overall persistence of deficit areas identified in the preschool years, and 3) new needs or deficit areas emerged as the children began school.

The issue of persistence or resolution of a particular deficit in an individual child was investigated further and the results are presented in Table 17. For most of the children, need areas identified at the time of DESC evaluation continued to be areas of concern four years later. For example, of the 60 children identified by DESC as having speech and language deficits, 90% had persisting impairments in that area four or more years later. Of the 57 children with motor needs, 75% still had need in this area four years later.

## TABLE 16

### Areas of Need at Time of DESC Evaluation and in 1982-83 (N=79)

| Areas of Need | At DESC Evaluation N | At DESC Evaluation % | In 1982-83 N | In 1982-83 % |
|---|---|---|---|---|
| Speech and Language | 60 | 76 | 51 | 65 |
| Intellectual Development | 20 | 25 | 37 | 47 |
| Reading | 3 | 4 | 46 | 58 |
| Writing | 0 | - | 33 | 42 |
| Math | 5 | 6 | 43 | 54 |
| Motor | 57 | 72 | 49 | 62 |
| Visual Perception | 13 | 16 | 27 | 34 |
| Self-help Skills | 15 | 19 | 25 | 32 |
| Self-concept | 25 | 32 | 23 | 29 |
| Social-Emotional Skills | 38 | 48 | 36 | 46 |
| Work Habits | 37 | 47 | 46 | 58 |

## TABLE 17

### Persistence of Need Areas in Children Evaluated by DESC (N=79)

| Need Identified by DESC | N | Need Identified After DESC Evaluation<br>0-1 Years % | 2-3 Years % | 4 or More Years % |
|---|---|---|---|---|
| Speech and Language | 60 | 82 | 83 | 90 |
| Intellectual Development | 20 | 50 | 75 | 70 |
| Reading | 3 | 33 | 66 | 66 |
| Math | 5 | 60 | 100 | 100 |
| Motor Skills | 57 | 54 | 79 | 75 |
| Visual Perception | 13 | 3 | 61 | 46 |
| Self-help Skills | 15 | 66 | 47 | 33 |
| Self-concept | 25 | 24 | 52 | 56 |
| Social-Emotional Development | 38 | 55 | 63 | 58 |
| Work Habits | 37 | 65 | 54 | 81 |

Interestingly, in the other areas, DESC identified needs which, although not of concern initially to service providers, gradually became so. For example, DESC evaluations cited needs in motor areas in 51 of the 79 children. However, following evaluation of children enrolled in special services, only about half of these children received services for or were described by providers as having motor deficits. In subsequent years, approximately three-fourths of these children were considered to have needs in motor skills, originally documented by DESC. Similar patterns were observed related to self-concept, visual perception, and work habits. The DESC evaluation and/or observation resulted in detection of deficits which service providers apparently did not detect or believe to warrant immediate intervention.

For most children identified by DESC as having particular needs, certain needs were associated with other deficit areas (Table 18). For example, children with speech and language needs at the time of DESC evaluation generally also had motor deficits. Those with impaired intellectual development were most often delayed in speech and language and motor skills. These need areas tended to persist and were accompanied by a variety of other deficit areas several years later (Table 19). For example, of the 57 children who as preschoolers were seen as having motor needs, 68% still had motor needs in 1982-83; 65% of these children also had speech and language needs, 61% had reading needs, and 61% had needs in the area of work habits.

The relationships between DESC handicapping condition, and initial and subsequent areas of need, were investigated to determine if certain need profiles characterized the subgroups of handicapping conditions. In Table 20, the handicapping conditions identified at the time of the DESC evaluation are provided. The percentage of children within each condition who had certain needs at the time of DESC in 1980 and in 1982 are listed. As indicated in the table, the numbers within each handicapping condition category are relatively small; and thus trends must be considered cautiously. Of the 18 children labelled by DESC as speech and language impaired, 72% had speech and language needs in 1982-83, 67% had needs in motor abilities, and over half the children had intellectual and academic needs five to six years after identification. Such findings indicate this population had far from an "isolated" communication disorder, both initially and eventually. Of those children described as multihandicapped (N=10), 80% had initial impairments in motor, speech and language, and work habits; and these needs persisted over the five- to six-year period. Finally, of those children DESC described as "not handicapped" (N=24), almost half (42%) had deficits in speech and language skills and work habits; and one-third had motor and reading problems five to six years after DESC evaluation. These findings are in agreement with previously discussed analyses, indicating this "nonhandicapped" group was far from being so.

The relationship between initial DESC needs and handicapping conditions for the 1982-83 school year was examined to ascertain if certain early needs were associated with particular outcomes or categories of impairment later in development. As indicated in Table 21, most children who were identified as having needs at the time of DESC, regardless of need area, were subsequently labelled as multiply handicapped. Recall that of the 55 children considered to be handicapped at the time of DESC, 37 (67%) were labelled as multihandicapped in 1982-1983 (see Table 12). Thus, in children evaluated by DESC, deficits in a particular area were not found to be

## TABLE 18

### Needs Identified at Time of DESC and Accompanying Need Areas (N=79)

| | | Percentage with Needs in 1982-83 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Need Identified by DESC | N | Speech and Language % | Intellectual Development % | Read % | Writing % | Math % | Motor % | Visual Perception % | Self-help % | Self-concept % | Social-Emotional % | Work Habits % |
| Speech and Language | 60 | 100 | 32 | 3 | 0 | 8 | 80 | 18 | 25 | 28 | 48 | 48 |
| Intellectual Development | 20 | 95 | 100 | 10 | 0 | 5 | 85 | 20 | 35 | 30 | 55 | 55 |
| Read | 3 | 66 | 66 | 100 | 0 | 33 | 66 | 0 | 0 | 0 | 0 | 33 |
| Math | 5 | 100 | 20 | 20 | 0 | 100 | 100 | 60 | 20 | 40 | 20 | 60 |
| Motor | 57 | 84 | 30 | 4 | 0 | 9 | 100 | 23 | 21 | 25 | 42 | 46 |
| Visual Perception | 13 | 85 | 31 | 0 | 0 | 23 | 100 | 100 | 23 | 31 | 62 | 70 |
| Self-help | 15 | 100 | 47 | 0 | 0 | 7 | 80 | 20 | 100 | 40 | 73 | 53 |
| Self-concept | 25 | 68 | 24 | 0 | 0 | 8 | 56 | 16 | 24 | 100 | 76 | 56 |
| Social-Emotional | 38 | 76 | 29 | 0 | 0 | 3 | 63 | 21 | 29 | 24 | 100 | 55 |
| Work Habits | 37 | 78 | 30 | 3 | 0 | 8 | 70 | 24 | 22 | 38 | 57 | 100 |

## TABLE 19

### Existence of Needs in 1982-83 by Needs Identified by DESC (N=79)

| Need Identified by DESC | N | Percentage with Needs in 1982-83 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Speech and Language % | Intellectual Development % | Read % | Writing % | Math % | Motor % | Visual Perception % | Self-help % | Self-concept % | Social-Emotional % | Work Habits % |
| Speech and Language | 60 | 77 | 57 | 67 | 48 | 67 | 75 | 42 | 35 | 33 | 55 | 70 |
| Intellectual Development | 20 | 85 | 70 | 65 | 45 | 65 | 85 | 50 | 35 | 30 | 40 | 65 |
| Read | 3 | 100 | 66 | 66 | 66 | 100 | 66 | 33 | 66 | 33 | 66 | 66 |
| Math | 5 | 80 | 40 | 60 | 80 | 80 | 60 | 40 | 40 | 60 | 80 | 80 |
| Motor | 57 | 65 | 49 | 61 | 47 | 58 | 68 | 42 | 37 | 26 | 47 | 61 |
| Visual Perception | 13 | 69 | 54 | 69 | 54 | 77 | 69 | 38 | 15 | 31 | 46 | 77 |
| Self-help | 15 | 80 | 67 | 67 | 53 | 80 | 87 | 53 | 33 | 53 | 73 | 73 |
| Self-concept | 25 | 52 | 40 | 56 | 32 | 60 | 52 | 44 | 28 | 40 | 64 | 64 |
| Social-Emotional | 38 | 68 | 47 | 61 | 34 | 55 | 55 | 42 | 46 | 37 | 55 | 68 |
| Work Habits | 37 | 65 | 46 | 70 | 46 | 70 | 65 | 41 | 27 | 41 | 51 | 76 |

## TABLE 20

## The Association Between Initial Handicapping Condition and Areas of Need over Time (N=79)

| Need Identified by DESC | DESC Handicapping Classification | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mentally Retarded (N=6) | | | Hearing Impaired (N=3) | | | Speech and Language Impaired (N=18) | | | Emotionally Impaired/ Behavior Disordered (N=5) | | |
| | DESC % | 1980 % | 1982 % | DESC % | 1980 % | 1982 % | DESC % | 1980 % | 1982 % | DESC % | 1980 % | 1982 % |
| Speech and Language | 100 | 83 | 100 | 100 | 100 | 33 | 100 | 83 | 72 | 60 | 60 | 60 |
| Intellectual Development | 17 | 50 | 100 | 33 | 33 | 33 | 50 | 56 | 61 | 20 | 20 | 20 |
| Reading | - | 67 | 67 | 33 | 67 | 33 | - | 56 | 56 | - | 60 | 80 |
| Writing | - | 50 | 83 | 100 | 33 | - | 100 | 17 | 33 | - | 40 | 60 |
| Math | - | 67 | 50 | - | 67 | 33 | 11 | 44 | 61 | 20 | 60 | 80 |
| Motor | 83 | 83 | 100 | 33 | 67 | 33 | 78 | 72 | 67 | 40 | 60 | 80 |
| Visual Perception | - | 50 | 50 | - | - | - | 17 | 50 | 39 | 20 | 40 | 60 |
| Self-help | - | 67 | 100 | - | - | - | 17 | 22 | 28 | 60 | 20 | 20 |
| Self-concept | - | 33 | 17 | 33 | - | 33 | 39 | 39 | 33 | 100 | 40 | 60 |
| Social-Emotional | 33 | 83 | 83 | 33 | 33 | 33 | 56 | 72 | 44 | 80 | 40 | 80 |
| Work Habits | 33 | 83 | 83 | - | 100 | 33 | 44 | 50 | 50 | 60 | 60 | 80 |

Note: Table entries are percentages with that need at that point in time.

TABLE 20 (Continued)

| Need Identified by DESC | Orthopedic Impairment (N=2) |  |  | Multi-handicapped (N=10) |  |  | Developmentally Delayed (N=11) |  |  | Not Handicapped (N=24) |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | DESC % | 1980 % | 1982 % | DESC % | 1980 % | 1982 % | DESC % | 1980 % | 1982 % | DESC % | 1980 % | 1982 % |
| Speech and Language | 50 | 50 | 50 | 80 | 80 | 80 | 100 | 91 | 82 | 42 | 25 | 42 |
| Intellectual Development | - | 50 | - | 30 | 40 | 50 | 36 | 55 | 82 | 4 | 17 | 17 |
| Reading | - | 50 | 100 | 10 | 70 | 80 | - | 46 | 82 | 4 | 21 | 33 |
| Writing | - | - | 100 | - | 20 | 50 | - | 9 | 55 | - | 17 | 25 |
| Math | - | 50 | 100 | - | 60 | 70 | 9 | 36 | 73 | 4 | 21 | 29 |
| Motor | 100 | 50 | 100 | 80 | 80 | 80 | 100 | 73 | 73 | 58 | 33 | 33 |
| Visual Perception | - | 50 | - | 30 | 40 | 40 | 36 | 46 | 46 | 8 | 17 | 21 |
| Self-help | - | - | 50 | 30 | 30 | 40 | 36 | 36 | 9 | 8 | 4 | 29 |
| Self-concept | - | - | 50 | 30 | 60 | 50 | 9 | 27 | 18 | 33 | 8 | 17 |
| Social-Emotional | - | 50 | 50 | 70 | 50 | 50 | 36 | 55 | 46 | 41 | 17 | 29 |
| Work Habits | 100 | - | 50 | 80 | 60 | 80 | 46 | 46 | 64 | 38 | 29 | 46 |

## TABLE 21

### Current (1982-83) Handicapping Conditions Associated with DESC Identified Needs

| | | | Handicapping Classification in 1982-83 | | | | | |
|---|---|---|---|---|---|---|---|---|
| Need Identified by DESC | N | % Not Handicapped | % Receiving Special Service, Condition Unknown | % Unknown | % Evaluation Only | % Hard of Hearing | % Deaf | % Speech and Language Impaired |
| Speech and Language | 60 | 7 | 3 | – | – | 2 | 2 | 12 |
| Intellectual Development | 20 | 5 | – | – | – | – | – | 15 |
| Reading | 3 | – | – | – | – | – | – | 33 |
| Writing | 0 | – | – | – | – | – | – | – |
| Math | 5 | 20 | – | – | – | – | – | – |
| Motor | 57 | 14 | 2 | 2 | – | – | 2 | 7 |
| Visual Perception | 13 | 15 | 8 | – | – | – | – | – |
| Self-help | 15 | – | – | – | – | – | 13 | |
| Self-concept | 25 | 24 | 8 | – | 4 | – | 4 | 8 |
| Social-Emotional | 38 | 11 | 5 | 3 | 3 | – | 3 | 13 |
| Work Habits | 37 | 11 | 5 | – | 3 | – | – | 8 |

TABLE 21 (Continued)

| | | Handicapping Classification in 1982-83 | | | | | |
|---|---|---|---|---|---|---|---|
| Need Identified by DESC | N | % Visually Impaired | % Seriously Emotionally Impaired | % Orthopedically Impaired | % Other Health Impaired | % Learning Disabled | % Multi-handicapped |
| Speech and Language | 60 | - | - | - | - | 13 | 63 |
| Intellectual Development | 20 | - | - | - | - | 15 | 65 |
| Reading | 3 | - | - | - | - | - | 66 |
| Writing | 0 | - | - | - | - | - | - |
| Math | 5 | - | - | - | - | - | 80 |
| Motor | 57 | - | 2 | - | - | 12 | 60 |
| Visual Perception | 13 | - | 8 | - | - | 8 | 62 |
| Self-help | 15 | - | - | - | - | 13 | 73 |
| Self-concept | 25 | - | 4 | - | - | 8 | 40 |
| Social-Emotional | 38 | - | 3 | - | - | 11 | 50 |
| Work Habits | 37 | - | 3 | - | - | 8 | 62 |

associated with a certain handicapping condition.

In summary, needs identified at the time of DESC tended to persist over a five- to six-year period. This finding has at least two interpretations, one positive and one negative. One, DESC evaluations generally were accurate in detection of impairments in these preschool children. Two, there was an overall persistence of early identified deficits. DESC handicapping conditions were not found to be associated with particular clusters of needs; most children identified as having deficits at the time of DESC, regardless of deficit, were subsequently labelled as multihandicapped.

## Children Not Accepted for DESC Evaluation

It will be recalled that 63 of the 143 children in Part 2 of the study were not accepted for evaluation by DESC. The most frequent reason for nonacceptance, noted in Table 22, was presence of a speech and language impairment although this only applied to 32% of the children. The second most common reason for nonacceptance was failure to meet the age-range criteria (21%). Thirteen of the 63 children were of school age when referred to DESC. In general, DESC records indicated that children not accepted for DESC evaluation were referred elsewhere, if some need for services was apparent.

Recall that a child had to have, or be suspected of having, at least two handicapping conditions in order to be accepted by DESC for an evaluation. Consideration of the 1982-83 handicapping condition of the 23 children believed to have only one handicapping condition (20 speech and language, 3 "other") would indicate the accuracy of that belief. During the 1982-83 school year, nine of the 23 children were considered nonhandicapped, eight had a single handicapping condition, two had unspecified handicapping conditions, and four were labelled "multihandicapped." Such findings indicate that DESC was approximately 80% correct in the initial judgment that these children had single handicapping conditions and thus were not appropriate for evaluation. The four subsequently classified as "multihandicapped" had been referred for a speech, language, and hearing evaluation following DESC nonacceptance.

As indicated in Table 23, almost one-third of the 63 not accepted for evaluation at some point received Level 4 or 5 services, with approximately 70% receiving special services of some type since initial contact with DESC. In considering the reasons for nonacceptance noted in Table 20, it is apparent that many of these children were considered handicapped by DESC personnel; but the handicaps could be better evaluated and served elsewhere. Thus, the high percentage requiring subsequent services is not surprising and should not be considered an indication of inappropriate rejections.

Children not accepted for evaluation by DESC did not exhibit one particular pattern of movement in services, as indicated in Table 24. Almost equal numbers of children moved to more and to less restrictive environments (24% and 21%, respectively). As noted in Table 25, within one year after contact with DESC, 78% of these children were not receiving special services. However, within five to six years after contact with DESC, approximately half were not receiving such services. These results are consistent with

## TABLE 22

Reasons for Nonacceptance for DESC Evaluation (N=63)

| | N | % |
|---|---|---|
| Out of County | 1 | 2 |
| Only One Handicapping Condition | | |
| Speech and Language | 20 | 32 |
| Other | 3 | 5 |
| Parental Noncompliance | 3 | 5 |
| No Apparent Delays | 2 | 3 |
| Adequate Previous or Scheduled Work-up | 2 | 3 |
| Current Placement Adequate to Meet Needs | 4 | 6 |
| Referral to Other Agency/Individual | | |
| Private Physician | 3 | 5 |
| Public/Mental Health | 4 | 6 |
| Community Health Nurse | 2 | 3 |
| Referral to MCPS | | |
| School-age | 13 | 21 |
| Preschool-age, Referral for CARD | 2 | 3 |
| Not Specified | 4 | 6 |

## TABLE 23

### Children Not Accepted for Evaluation (N=63): Subsequent Special Services and Placements

| | Highest Level of Services Received to Date | | Level of Services in 1982 | |
|---|---|---|---|---|
| | N | % | N | % |
| No Special Services | 18 | 29 | 30 | 48 |
| Consultative | 7 | 11 | 6 | 10 |
| Itinerant | 9 | 14 | 4 | 6 |
| Resource | 9 | 14 | 8 | 13 |
| Special Class, Regular School | 7 | 11 | 8 | 13 |
| Special School | 13 | 21 | 7 | 11 |

## TABLE 24

### Children Not Accepted for Evaluation (N=63): Changes in Services Over a Five- to Six-Year Period

| Movement | N | % |
|---|---|---|
| Never in any services | 18 | 29 |
| Movement to less restrictive environments | 13 | 21 |
| Movement to more restrictive environments | 15 | 24 |
| Maintenance of same level of service | 8 | 13 |
| Fluctuations in level of service | 9 | 14 |

## TABLE 25

### Children Not Accepted for Evaluation (N=63): Subsequent Special Services and Placements

| Placement and Services | Years After Contact with DESC | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | One Year | | Two Years | | Three Years | | Four Years | | Five Years | | Six Years | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| In regular class, no services | 12 | 13 | 11 | 21 | 19 | 27 | 22 | 38 | 28 | 43 | 12 | 56 |
| Not of school age, not in placement | 33 | 65 | 22 | 37 | 12 | 22 | 4 | 10 | 0 | - | 0 | - |
| Consultative, itinerant resource services | 6 | 8 | 16 | 19 | 13 | 25 | 16 | 22 | 16 | 30 | 4 | 28 |
| Special class or special school | 9 | 10 | 11 | 21 | 15 | 22 | 16 | 25 | 15 | 25 | 2 | 16 |
| Unknown | 3 | 5 | 3 | 3 | 4 | 3 | 5 | 5 | 1 | 2 | 0 | - |

[a] For only those children (N=18) evaluated in 1977-78.

previous analyses which indicated a high number of these children required some type of special services during the five to six years after DESC contact.

The 1982-83 handicapping conditions of the 63 children not accepted for evaluation are presented in Table 26. These children were most frequently labelled as not handicapped (49%), with multihandicapped next most common (24%). The children not accepted for DESC evaluation subsequently received a variety of labels for handicapping conditions. Approximately 30% (N=18) have never been labelled. Over 60% of the nonaccepted group (N=39) were labelled as handicapped for two or more years. The most frequent classifications were speech and language impaired, learning disabled, or a combination of the two.

Those children not accepted for DESC evaluation most frequently had needs in the area of speech and language (43%) and reading (35%) five to six years following contact with DESC (see Table 27).

## SUMMARY

Educational histories were formulated for 80 children evaluated by DESC and 63 children not accepted for evaluation. Most children were white males, referred to DESC around their third birthday.

Of those accepted for an evaluation, the majority were found to have some handicapping condition (speech and language the most frequent), for which they subsequently began receiving special services. Of those identified by DESC as handicapped, almost three-fourths were in special classes five to six years after identification. Handicapping conditions tended to remain fairly stable, with the vast majority of children retaining their original "label" for two or more years, suggesting accurate early identification of deficits by DESC. Children labelled as developmentally disabled tended to "evolve" into multihandicapped or speech and language impaired. Those labeled as multihandicapped tended to remain so labeled. With the exception of speech and language impaired, the majority of handicapping conditions identified by DESC were associated with eventual special class placement, five to six years following identification.

For children evaluated by DESC and diagnosed as nonhandicapped, most subsequently were labelled as learning disabled, speech and language impaired, or a combination of the two and required special services, generally within a regular classroom.

For children evaluated by DESC, areas of need which were identified at the time of evaluation generally persisted over a five- to six-year period. Many areas considered to be of concern by DESC were not initially noted by service providers, but gradually became so. Such findings support DESC's ability to identify a variety of deficits, including more subtle impairments.

Children were not accepted for evaluation (N=63) for a variety of reasons, primarily because of a suspected isolated speech and language disorder. Almost 72% of this group received special services at some point following contact with DESC. The most frequently occurring handicapping conditions were speech and language impaired, learning disabled, and a combination of the two.

## TABLE 26

## Handicapping Condition in 1982-83 of Children Not Accepted for Evaluation by DESC (N=63)

| Handicapping Condition | N | % |
|---|---|---|
| Not Handicapped | 31 | 49 |
| Mentally Retarded | - | - |
| Auditory Impairment | - | - |
| Speech and Language Impaired | 5 | 8 |
| Visually Impaired | 1 | 2 |
| Seriously Emotionally Disturbed | - | - |
| Orthopedically Impaired | - | - |
| Other Health Impaired | - | - |
| Specific Learning Disability | 8 | 13 |
| Multihandicapped[a] | 15 | 24 |
| Receiving Services, Handicapping Condition Unknown | 3 | 5 |

[a] "Multihandicapped" includes those children labelled as such and those who received more than one handicapping condition.

## TABLE 27

## 1982-83 Areas of Need for Children Not Accepted for Evaluation (N=63)

| Areas of Need | N | % |
|---|---|---|
| Speech and Language | 27 | 43 |
| Intellectual Development | 11 | 17 |
| Reading | 22 | 35 |
| Writing | 13 | 21 |
| Math | 19 | 30 |
| Motor | 21 | 33 |
| Visual Perception | 14 | 22 |
| Self-help Skills | 10 | 16 |
| Self-concept | 11 | 17 |
| Social-Emotional Skills | 11 | 17 |
| Work Habits | 20 | 32 |

## Chapter Three

## CASE STUDIES

In hopes of identifying factors related to success in a placement, individual case studies were developed for children who fit into certain categories of DESC referrals:

1. Those in special education following contact with DESC, and still in such a setting at the time of the most recently available information (three children)
2. Those in special education following contact with DESC, but no longer in such a setting (three children)
3. Those not in special education following contact with DESC, and still not in such a setting (four children)
4. Those not in special education following contact with DESC, but in such a setting at the time of the most recently available information (three children)

Each child's placement history is unique. However, information regarding progress, sequence of services, outcome profiles, and questions raised can help us better understand this population as a whole by providing insight into how individual histories unfold. More detailed information about each child is presented in Appendix B.

### INITIAL AND CONTINUED SPECIAL EDUCATION PLACEMENT

The first three cases represent DESC referrals who entered a Level 4 or above setting following contact with DESC and were in such a setting at the time of the most currently available information. All three were evaluated by DESC.

### Sam

Sam was evaluated at DESC at 18 months of age because of delayed development secondary to Downs Syndrome. Results of the evaluation indicated his greatest needs were in language, motor, and behavior. Prior to, and for the four years after the DESC evaluation, Sam was enrolled in the same Level 5 placement. Throughout those years, his social skills remained a strong point, with gradual introduction and attention to academic skills. At age 6 years, motor and self-help skills were between 4 and 5 years, with a mental age on the Stanford-Binet of 4 years, 7 months. The most disappointing results were in expressive language. Despite frequent speech and language therapy throughout this entire period, he remained intelligible only with "careful listening" five years after his DESC evaluation. Expressive language at age 6 years was between the 3- and 4-year level. His articulation skills were described as "severely impaired."

Sam's history is discouraging in that his greatest need was identified at an early age, and he received services for that need for an extended period of time. His slow progress could be attributable to several factors. The type of services he received may not have been intensive enough for the severity of his disorder. The therapeutic approach may have been inappropriate to his needs. It may be that expressive deficits such as Sam's, when in combination with developmental delays, require more extended intervention periods, with progress occurring in smaller increments than would be observed in a child without accompanying delays. Possibly, for a child such as Sam, age-appropriate functioning will not occur for several more years, if ever. Whatever the reason, early identification and four years of intervention were not sufficient to overcome his communication impairment.

### Mary

Mary was evaluated at DESC at two years, 10 months. Her behavior during the evaluation was characterized by lack of communication and human interaction and bizarre body posturing. She entered a Level 5 placement several months after this evaluation and remained in the same program for almost four years.

Upon entry into the program, Mary was exhibiting behaviors similar to those reported by DESC. After one year in the program, poor eye contact, aversion to physical contact, and self-stimulatory behavior persisted. The following year, Mary exhibited significant improvements in behavior. Frequent noncompliance, screaming, and wetting and soiling were dramatically reduced by a behavior modification program of reinforcements and removal. Advanced skills in reading and writing were reported, but expressive language remained notably impaired. Mary's third year in the program saw her achieve age-appropriate reading skills and strong math skills, with her greatest needs in social and emotional development.

Mary was characterized as having severely delayed language upon entry into her fourth year in the program. Improvement in this area occurred during the year, allowing Mary to verbalize her needs and resulting in improved social-emotional skills and decreased screaming and tantruming. During her final months in the program, and after her transfer to an alternative center (Level 5), Mary was characterized as exhibiting impaired emotional development and bizarre behaviors in stressful situations. Her strengths in reading and math persisted, and she exhibited an improved ability to adapt to new situations and change from group to group.

Mary, identified early as having significant emotional and interactional deficits, received intensive and extended intervention which was effective in so far as negative behaviors dropped sharply, interaction with peers and adults increased, and verbal and academic skills developed. Although she began in a Level 5 setting and remained in one as of the most recently available information, Mary's progress is apparent, and her successes numerous. Although there is no way of knowing, it seems that Mary would certainly have been far more severely impaired in 1982-83 without early intervention. Perhaps no amount of services will ever allow Mary to function in a regular classroom; yet the efforts of her service providers have resulted in behavior far superior to that observed upon entry into a special program, thus allowing her to experience academic success.

### Sarah

Sarah was evaluated at DESC at age three years, seven months, because of poor eye-hand coordination. Intellectually within normal limits, her major deficit upon evaluation was in communication. She received services at a Level 5 program for two years. At the end of the second year, she was considered to have age-appropriate functioning in all areas. She entered kindergarten, and subsequently first grade, where problems were reported in work habits, peer interaction, articulation, and fine and gross motor skills. These persisted throughout the year, with no measurable progress. Because of this, and test results confirming severe fine motor deficits, Sarah was placed in a learning center (Level 5) for the next school year, with disability codes of speech impaired, other health impaired, and specific learning disability. Relatively little progress was seen in most areas during that year.

Sarah's impairments were accurately identified early in her development, with apparently appropriate remediation. Her reported "age-appropriate" functioning upon entry into kindergarten, and subsequent placement in a learning center two years later, may or may not have been a deterioration in her condition. It is possible that the support and individual attention she received in the Level 5 program allowed her to function at an age-appropriate level in spite of her problems. In addition, it seems that her deficits became more apparent with the introduction of increasingly difficult academic material. It may be that children such as Sarah, who appear to have "outgrown" their preschool impairments, continue to need a level of support that their preschool functioning in a highly supportive setting would not indicate.

## INITIAL SPECIAL EDUCATION, SUBSEQUENT REGULAR CLASSROOM PLACEMENT

The next three case studies represent DESC referrals who were placed in Level 4 or above settings following their contact with DESC. However, they were not in such a setting at the time of the most recently available information. Although all have moved to less restrictive environments, these children appear to have persisting deficits or worrisome behaviors. Two of these children were evaluated by DESC and one was not.

### BOB

Bob was evaluated at DESC at age two years, eight months. Results indicated developmental delays in all areas, with language most impaired. He was subsequently placed in a Level 5 program several months later. Within three months, he reportedly had progressed from infrequent use of a few single words to use of 2-3 word phrases. Fine motor deficits and language remained areas of concern throughout the year and his subsequent second year in the same program.

Bob entered kindergarten the following year, with speech and language itinerant support. Fine and gross motor deficits were reported almost immediately, for which he began receiving physical therapy. Concerns regarding poor work habits were noted throughout the year. Bob entered first grade, again with speech support and resource room assistance. His disability codes were speech impaired and specific learning disability. His resource room support was increased to Level 3 midyear, because of persisting fine motor deficits which interfered with counting, writing, and reading. Verbal skills were notably improved by year's end, although he continued to have needs in that area. He also had needs in fine and gross motor skills. During the second grade, he received the same level of supporting services as he had at the end of first grade (Level 2 speech and language, Level 3 resource). By the end of second grade, he had achieved all first grade objectives. Minimal verbalizations and persisting gross and fine motor deficits were characteristic.

Bob entered services at an intense, "restrictive" level, but after two years was able to enter a regular educational setting. The services he required needed to be increased during his three years in that setting, and his performance in certain areas continued to be poor. With a great deal of special support, Bob was able to function in his current setting and to be in the mainstream. While the amount of service Bob required lessened somewhat, problem areas persisted.

### William

William was evaluated at DESC at age three years, seven months. Results indicated receptive and expressive language below two years, with borderline intellectual functioning (IQ=74 on Stanford-Binet). William subsequently entered a Level 5 program, where he remained for two years. Despite intensive intervention, word retrieval problems and receptive language deficits continued to be a problem. At age six years, placement in a self-contained language class within a regular elementary school was recommended, and William remained in such a setting for two years. Counselling was initiated and provided during this period because of his poor self-concept and peer interactions. He reportedly made notable progress in both language and academics during this time and was mainstreamed during his second year in the language class. After four years of self-contained special education for his language deficits, William entered a regular second grade, with itinerant speech and language therapy. Although his teachers and speech-language pathologist noted good academic and language progress, poor work habits, application of abilities, and self-concept continued to be of concern.

William's placement history represents the best hope of service providers to preschool handicapped children. That is, with early identification and intensive intervention, movement to less intensive services was possible. A cautionary note: information regarding William's success in a less intensive environment is restricted to one year. It is difficult to predict his functioning as more difficult academic material is introduced.

### James

James was referred to DESC at 2 1/2 years of age but was not accepted for evaluation because of apparently only one handicapping condition: speech and language. School records indicated he entered a Level 5 nonpublic program at 16 months, but records from that program were not available. He apparently continued there for several years because records indicated he was at the same program at age 4 years, 9 months. During that year, he received frequent individual and group language therapy. By year's end, language skills and all other abilities were reported to be at or above age level, with the exception of articulation, which remained notably impaired.

The following year, James entered kindergarten, his first regular educational setting, with itinerant speech and language therapy twice weekly throughout the year. His progress in therapy was disappointing. No evidence of carry-over of sound production into spontaneous speech and a reluctance to communicate verbally was observed. James was totally unsuccessful in producing certain speech sounds in isolation. During the year, his parents and service providers questioned whether James was receiving the needed amount of therapy in light of the severity of his disorder. However, he continued to receive therapy twice weekly for the entire year.

James's early records are sparse, and thus it is difficult to speak to any "evolution" of handicapping condition. However, it is clear his primary problem, severe misarticulations, remained virtually unchanged despite several years of intervention. It is not possible to tease out the contribution of therapeutic approach and frequency of intervention to progress, or lack of same.

### INITIAL REGULAR CLASS PLACEMENT, SUBSEQUENT SPECIAL EDUCATION

The next four case studies represent DESC referrals who were in regular class placements following their contact with DESC. However, they were in special education settings at the time of the most recently available information. Two of the children were accepted for a DESC evaluation and two were not.

#### Peter

Peter was referred to DESC at four years of age but was rejected because of no apparent deficits. His early years were characterized by questionable abuse, family turmoil, and failure to thrive. He attended Head Start for one year, where some aggressive and violent behavior was noted. The following year, he entered kindergarten. Periodic inattentive, violent, disruptive behavior made his functioning in a regular classroom difficult. Basic skills were of concern throughout these two years; by the end of kindergarten, he was unable to count beyond 3 and only recognized the letter "A." With psychological testing indicating normal intelligence (Stanford-Binet IQ 103), Peter was labelled as learning disabled and was placed in a primary SLD class for the subsequent year. During this year, medication therapy was recommended on several occasions because of Peter's severe attention deficits. However, his family expressed concerns about this. Peter's behavior appeared to deteriorate somewhat by year's end (disorientation, poor eye contact). Although some academic progress was noted, he entered an alternative center (Level 5) for the next year because of behavioral concerns. Progress was hindered by poor behavior, and Peter was described by year-end, by the school psychologist, as "one of the most overly active children" ever observed. Again, medication therapy was discussed during the year, but not initiated. Peter continued in an alternative setting the following year, with academic skills at the first to second grade level (chronological age of 9 years). During this year, his parents agreed to trial usage of medication; and within several weeks, decreased activity and increased attention span were observed. By year's end, progress had been noted in all areas, although certainly behavioral concerns had not been totally resolved.

Peter's behavioral problems first noted in the preschool years appeared to have snowballed in subsequent years. A recognition of the problem, evaluations, classroom alterations, special class placements, and related services all appeared inadequate to manage the severity of Peter's disorder. Medication seems to have been the only approach which effectively altered Peter's behavior. It is difficult to speculate as to whether or not Peter would have been helped at an earlier point if he had been evaluated by DESC and provided with intervention sooner.

## Joseph

Joseph was referred to DESC at age 4 but was rejected because of only one apparent handicapping condition: speech and language. Joseph was reportedly premature and had seizure onset at age two. He exhibited suspect performance in several areas of screening testing done for kindergarten roundup, and monitoring of his progress was recommended.

Upon entry into kindergarten, significant unintelligibility and problems with grammar were noted, with subsequent entry into speech and language therapy. By midyear, because of additional concerns regarding fine and gross motor skills and basic concepts, Resource Room assistance was initiated.

During the first grade, Joseph continued to exhibit slow academic progress, with his teacher noting that he needed more services than a "regular class can offer him." By year-end, Joseph had received a psychological evaluation that indicated low average intelligence with significant visual, motor and language problems. Placement in a primary learning disabilities classroom was recommended.

For the next three years, Joseph was in such a setting. The first year was characterized by poor motivation and work habits, whereas during the second year, Joseph's teachers noted good progress academically and in speech and language. Joseph was able to be mainstreamed, with performance at or above age level in math, science, and PE. For his third year, he was mainstreamed in these subjects and social studies. Independent work skills emerged during this year, with "excellent progress" in speech and language, according to the speech-language pathologist, particularly in the area of oral and written expression. Language skills, at age 9 years, 9 months, ranged from 8 to slightly over 10 1/2 years. Nonetheless, continuation of these services and placement in an SLD class were recommended for fourth grade.

Joseph's functioning as a preschooler was suspect. Despite this early recognition, he received no services until he entered kindergarten. Although efforts were made to maintain him in a regular school setting with support help, Joseph appears to have required a self-contained environment to best meet his needs. The evolution of Joseph's performance in the SLD class from minimal motivation and poor work habits to independence and progress is interesting. The fact that Joseph moved from a less restrictive to more restrictive environment represents the school system's gradual introduction of more intensive services as the services being provided proved inadequate. In addition, his continued improvement in the self-contained class might lead one to expect his eventual return to the regular classroom. Like the previous child's, Joseph's history raises the question of whether or not earlier intervention would have helped him in any way.

## Clifford

Clifford was referred to DESC at age three, with a history of excessive activity and disciplinary problems at home, and mental health intervention was prescribed for the family. Results of the DESC evaluation indicated age appropriate functioning in all areas, with no evidence of behavioral deviations. Inappropriate behaviors were observed, however, in the presence of his mother. There were no concerns noted in his folder regarding behavior and/or school performance until first grade; when, midway through the year, he was described as having "tremendous" behavior problems, including violence and expressions of hatred toward home and school. He repeated first grade with Resource Room help. Records indicated improvement in academic skills; there was no mention of behavior that year or the subsequent year.

Clifford's experiences in third grade were the most disruptive of his school history. With two suspensions within the first few months of school, he showed aggression (throwing a chair) and anger directed toward peers and adults. Described as a "danger" in class, his teachers requested home instruction or an alternative placement more equipped to deal with his problems. School and other agency personnel made numerous attempts to work with Clifford and his mother, but his mother refused to cooperate in all efforts to modify Clifford's behavior. Clifford subsequently had a brief diagnostic placement at an alternative center (Level 5) and was recommended to begin a program for behavioral disorders the next school year.

Clifford's problems were noted by professionals prior to age three. However, those problems at that time appeared restricted to home or mother-child interactions. Thus, Clifford's behavior during the DESC evaluation was not aberrant. Indeed, he appears to have had uneventful periods in the next several years which mirror the DESC evaluation results. Clifford can either be seen as a volcano who might never have exploded or as a high risk child who either singly or with his family required early intervention. It is only with hindsight that we can see the road he would actually travel.

## Kathleen

Kathleen was referred to DESC at slightly over five years of age. At that time, she was enrolled in Head Start. Results of the DESC evaluation indicated intellectual functioning in the low-average range, but perceptual and motor skills were of concern. In addition, speech and language skills were characterized by perseveration and ritualistic language. Continuation in Head Start, with language therapy, was recommended by DESC. A CARD meeting the following fall recommended an SLD placement. The next month, she entered a Level 4 preacademic class. Her behaviors and performance were of concern all year. She was notably distractible, giving repetitious or irrelevant communications, and exhibiting severe visual motor and visual perception deficits. For example, on the Hiskey-Nebraska Test of Learning Aptitude, Kathleen (C.A. 6 years, 2 months) scored below baseline on bead patterns, 3 years on paper folding, and 3 years on block patterns. The following year, she entered an alternative center (Level 5). Kathleen reportedly made progress during the year, but aforementioned deficits remained unresolved.

At age eight years, Kathleen entered a second alternative center. That year and the next, she received, as she had in the past, numerous support services, including speech, motor, and occupational therapy and social work. By the end of her second year at this program when she was nine years old, reading skills were at a readiness level, she had poor interaction with her peers, her conversations were inappropriate, and her motor development remained severely delayed. In short, Kathleen had made virtually no progress over the past few years. She was unable to master daily routines which had remained the same over the two-year period, and she exhibited very poor judgment. Because of staff and parental concerns about lack of progress, extensive testing was done which reconfirmed a profound visual-motor and visual perceptual impairment. Although the question of a deteriorating condition was raised, subsequent evaluation by a pediatric neurologist gave no indication of this. Placement on medication to improve attention produced no noticeable effect.

Despite early identification, special services, and special class placements, Kathleen made negligible progress over a five-year period in the areas which were of primary concern upon her initial contact with DESC, that is, visual-perception, language, and motor skills. Why didn't Kathleen make progress? There is clearly no easy answer: Kathleen's parents and school personnel expressed frustration and despair at her lack of success. Clearly, her behaviors have puzzled all the professionals involved.

## INITIAL REGULAR CLASS PLACEMENT, SUBSEQUENT SAME PLACEMENT

The next three cases represent DESC referrals who were in regular class placements following their contact with DESC, and who maintained such placements at the time of the most recently available information. One was accepted for a DESC evaluation, the other two were not.

### Andrew

Andrew was referred to DESC at age four years, nine months. Results of that evaluation indicated speech and language deficits and fine motor delays. Attention to these deficits, in a regular kindergarten setting, was recommended. During his kindergarten year, Andrew received resource and speech and language support, with progress noted, but deficits persisted by year-end. He scored below the fifth stanine on a prereading battery and exhibited low performance on the Metropolitan Readiness Test. During the first grade, Andrew reportedly received increased speech and language support with Resource Room assistance. Progress was noted in all areas, although work habits, visual-motor, and grammatical skills remained of concern by year-end. Documentation of problems or progress during the second grade was unavailable in the records until April of that year, at which time perceptual and language deficits were noted. These were not considered to interfere with his level of achievement; and, therefore, Resource Room support was dropped to a consultative service during third grade. However, within the first month of third grade, concerns were raised by school personnel because of Andrew's distractibility and poor work habits. Resource Room help was reinstated at an itinerant level. His handicapping conditions were specific learning disability and speech impaired. Midyear, a developmental pediatrician evaluated Andrew and recommended, among other things, medication to decrease distractibility. Progress reportedly was excellent following initiation of medication, although Andrew remained below grade level in academic areas. It was recommended that he repeat third grade and receive itinerant speech and language help. During that final year, Andrew improved in his work habits and achieved grade level functioning. Only his speech and language skills remained impaired.

Andrew was identified by DESC as having communication and fine motor deficits which were confirmed with his performance in school. These deficits were mild; and thus, with itinerant and Resource Room help, increased and decreased according to his current needs, Andrew was able to show improvement. While his primary school years could certainly be described as rocky, Andrew appears nearly to be ready to function without extra support.

## Patrick

Patrick was referred to DESC at age four years, but was not accepted for evaluation because of apparently only one handicapping condition: speech and language. A speech and language assessment soon thereafter from the health department indicated receptive and expressive language approximately two years delayed. Patrick received itinerant speech and language therapy during kindergarten and first grade, but school records contained no information regarding progress. In addition, during first grade, he began receiving Resource Room assistance because of problems with work habits, visual perception, fine motor skills, and math. Again, there was no information about improvement, but the fact that Patrick repeated first grade would indicate that these problems persisted. He continued to have difficulties with work habits during his second pass through the first grade, but academically and socially he did well. During the second grade, Patrick received no services; yet teacher notations indicated persisting problems with organization and responsibility for his assignments.

Patrick may well have had more than a speech and language problem, the reason for the DESC nonacceptance, in light of his later need for resource support and repetition of a grade. Nonetheless, his problems were mild enough and his support was sufficient to allow him to remain in a regular classroom setting and, apparently, eventually evolve to the point of no longer needing such support.

## Edward

Edward was referred to DESC at four years but was not accepted for evaluation because of only one apparent handicapping condition: speech and language. These abilities were subsequently evaluated at the local health department where Edward was noted to have "mild difficulties" in speech and language. Intervention was not recommended. Throughout his kindergarten year, Edward was of concern to his teachers in the areas of speech and language, work habits, and motor skills. He received evaluations during the year but apparently no further services. The Maryland Systematic Teaching Observation Inventory[1] indicated further screening was needed in all areas. On other testing, language skills were found to be one to one and one-half years delayed.

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[1] A screening instrument administered to kindergarten children within MCPS.

Early in the first grade, concerns were raised regarding work habits, but a "working contract" between Edward and his teacher appeared effective. Also, however, early in first grade, academic skills were noted to be delayed. He received resource help and itinerant speech and language therapy; but by year-end, he was described as having made poor academic progress. He entered second grade. Subsequent psychological testing indicated normal intelligence, but he had memory and processing problems, indicative of a learning disability. Soon thereafter, Edward began receiving daily resource assistance to focus on deficit areas. By year-end, his teachers noted "encouraging" signs of growth in math and reading, although his scores in those areas on the California Achievement Test had dropped. Continued resource support was recommended for third grade.

Once again, an apparently isolated deficit (speech and language) in the preschool years contributed to or forewarned subsequent learning disabilities. There was no indication in Edward's history of other concerns or deficits prior to his entry into an academic setting. Indeed, there were concerns in kindergarten, but none seemed sufficient or specific enough to merit intervention during that year.

## SUMMARY

The case studies examined the individual placement histories of 13 children whose families contacted DESC between 1977 and 1979. Eight of these children were evaluated by DESC; five were not accepted for an evaluation. The children were intentionally selected for their different histories which raise a number of issues about early identification and intervention. These issues are discussed in the next chapter.

# Chapter Four

## DISCUSSION

Several issues are raised as a result of this investigation, in particular 1) the appropriateness of the DESC policy for acceptance for evaluation, 2) the stability of DESC diagnosis, and 3) the effectiveness of DESC identification and early intervention.

### DESC ACCEPTANCE POLICY

It will be recalled that in order for a child to be accepted for DESC evaluation, he/she must have exhibited or have been suspected of having at least two handicapping conditions. An apparent single impairment, *regardless of severity*, generally resulted in nonacceptance. Thus, those children referred elsewhere for services or evaluation were characterized by a wide range of functioning, a group in no way totally normal or totally impaired. Consideration of subsequent needs and support services required by both accepted and nonaccepted children addresses the issue of DESC acceptance policy appropriateness.

The vast majority of children accepted for evaluation by DESC required special services following evaluation and continued to require a high level of support for five to six years after DESC contact. Data obtained in Part 1 of the study indicated 57% of the children for whom follow-up information was available were in Level 4 or above one to six years after DESC evaluation. In Part 2, approximately three-fourths of the children evaluated between 1977-1979 were in such placements five to six years later. This fact suggests that DESC was successful in accepting and identifying a preschool population with significant problems: those children who received evaluations clearly needed them.

Despite the heterogeneity of the group of children not accepted for DESC evaluation, the adequacy of the DESC acceptance policy might be further supported by consideration of the placements of those children. In Part 1 of the study, the percentage of children in 1982-83 receiving no services was 55, compared to 22% of the children accepted for evaluation. Placement in a self-contained classroom occurred half as often in the nonaccepted group. A similar percentage in both groups was receiving consultative, itinerant, or Resource Room assistance. In Part 2 of the study, approximately one-half of the children not accepted for evaluation were receiving special services five to six years after DESC contact, in contrast to over 90% of those evaluated. These findings support the appropriateness of the DESC policy. Compared to those evaluated, nonaccepted children tended to be less impaired subsequent to their DESC contact, receiving less restrictive services. Certain preschool deficits of this population may have resolved or persisted to such a mild degree that regular class placement was possible. Children with developmental deficits which resolve spontaneously or with intervention, or less severe disabilities, can be managed at a variety of agencies within the county, allowing DESC to focus time and attention on children with more serious impairments.

Consideration of current handicapping conditions in the nonaccepted group is important because, for some, their nonacceptance was based on having only one handicapping condition. It would be hoped that few, if any, of this group currently would exhibit more than one impairment. Of the 23 children from Part 2 of the study believed to have only one handicapping condition at the time of contact with DESC, only four were labelled "multihandicapped" five to six years later, suggesting appropriate DESC non-acceptance of most of this subgroup. A second interesting fact regarding handicapping conditions in the nonaccepted group, as indicated in Part 2 of the study, is the increased incidence of learning disabilities (13%), compared to those evaluated by DESC (7%). Apparently, those nonaccepted children exhibited delays or unusual behaviors which were not severe or significant enough at the preschool level to warrant evaluation. Perhaps those self-same behaviors, several years later, contributed to or were the basis for the "learning disabled" label. The problems associated with the learning disabled label, with reference to the preschool population, will be discussed later.

## STABILITY OF DESC DIAGNOSIS

One important question for an evaluation of a diagnostic agency is: Were the evaluations accurate and thorough? A good diagnostic evaluation should identify all of a child's problem areas. The best check on thoroughness and accuracy would be an evaluation conducted at the same time by a different set of diagnosticians. Given these data are not available, the next best check is to see whether later assessments by other professionals reach the same conclusions about the child.

Eighty-two percent of the sample of children evaluated by DESC between 1977 and 1979 retained the DESC-applied handicapping condition for at least two years after the evaluation. The analyses of the data on areas of need showed that the majority of the children in 1982-83 still had needs in the areas originally identified by DESC. The fact that a child was still characterized by the same handicapping condition and same areas of need several years after a DESC evaluation suggests that the DESC evaluations were comprehensive and accurate. Furthermore, with regard to areas of need, the data indicate that the DESC evaluation picked up early on some need areas that would resurface or be identified by school personnel several years later.

There are several ways to interpret the finding that handicapping condition and areas of need are stable for the majority of DESC-evaluated children. One, when other professionals later reviewed the information available about the child, they were substantially influenced by previous assessments and thus were likely to reach the same conclusion. The handicapping condition label was carried forward each year, not necessarily because the preceding year's assessment was accurate, but rather because the label itself contributed heavily to later assessments about the child. Two, DESC did indeed accurately identify early on the problems in this population. The darker side to this story is that these children did not appear to be getting any better.

While the majority of the evaluations were corroborated by later assessments for a few children, there was a conflict between the DESC staff and other professionals who worked with the child several years later. For some children, this conflict consisted of adding another handicapping condition; while for others, it was a judgment as to whether the child was handicapped at all. Of the 55 DESC-evaluated children from Part 2 whom DESC found to be handicapped, five were considered not to be handicapped five to six years later. Their handicapping conditions were all speech and language impaired. This discrepancy between initial and eventual handicapping condition appears to be due to improvement or resolution of the impairment rather than misdiagnosis on the part of DESC.

Of the 24 children that DESC had concluded were not handicapped, 60% (N=14) were later classified as handicapped. Most of these children were later classified as learning disabled, with or without an accompanying speech and language impairment. DESC did not label any children as "learning disabled," an appropriate decision in light of the preschool age at time of evaluation. However, 16% of children originally labelled as "developmentally delayed," 17% of the speech and language impaired, and 25% of those "nonhandicapped" were subsequently labelled as "learning disabled." The overwhelming predominance of learning disabilities among this group raises several issues related to the developmental course and assessment of this particular handicapping condition. There is the philosophical issue of identifying and using this label with a preschool population. Traditionally, the condition refers to difficulties with academic material; and thus, by definition, it is an inappropriate label for preschool children. On the other hand, the children who are later to be labelled as learning disabled (LD), such as those evaluated by DESC, appear to be sufficiently unusual in their development even as preschoolers so as to lead people to suspect a problem and refer them for evaluation. Even if the early signs could be reliably identified, there is still the question of what kind of intervention can be provided so that special services will not be required when reading or mathematics is taught. If intervention will still be needed at kindergarten and first grade, is there any reason to provide services earlier?

These issues are all a part of deciding how much stability of diagnosis to expect from year to year in young children with suspected problems. Given the uncertainties in the area of preschool assessment, particularly with regard to learning disabilities, a small percentage of "misses" seems unavoidable. Overall, it would seem that DESC has been functioning well in its role of providing early diagnosis for young children.

## EFFECTIVENESS OF EARLY IDENTIFICATION AND INTERVENTION

The sole purpose of diagnosing medical and developmental problems in a young child is to allow provision of special services which might improve the child's functioning. The hope is that by providing services early, his or her school career will be different from what it would have been had services not been instituted until first or second grade. By identifying and treating children early, the quality of life at some later point should be improved. DESC has no control over what services are provided to the children it has diagnosed, but the outcomes for these children have important policy implications for special education for preschool and primary grade in MCPS. The follow-up data from this study directly address the question of what happens to children identified as handicapped before school age.

There are a number of different criteria which could be used to determine that the early provision of special services has been effective. One criterion is improved functioning, improved insofar as the child's functioning exceeds what would have been expected without intervention. Another criterion is a decrease in the amount of special services the child requires in subsequent years. A progressive decrease in services over the years is also consistent with the mandate of P.L. 94-142 to place handicapped children in the least restrictive environment appropriate to their needs. Almost 70% of the children evaluated in their preschool years by DESC were still in a self-contained special education classroom five to six years later. When the placement histories from year to year were examined, they showed that 55% of the children required the same or a higher level of service since their preschool placement. Placement histories of 24% showed a move to a less intensive level of service.

The picture painted is of some children, a minority, improving, while others continue their placements in special classes and special schools. There is no standard by which to judge how many children should require fewer services years later in order to pronounce preschool special education programs successful. One hundred percent is far too optimistic since some of the children's problems are chronic and/or severe in nature. It may be unrealistic to expect that children with severe deficits will require less intensive services or at least not for a number of years. Certain handicapping conditions, such as autism and mental retardation, are chronic; and the majority of these individuals labelled in the preschool years will continue to be impaired into adulthood. Thus, expectations for success must be tempered to a degree with this knowledge and the fact that, for some children, no amount of preschool services may ever allow them to function in a regular classroom. On the other hand, given that early identification is supported on the grounds that it ameliorates children's problems early so they no longer need special services, one would hope that a sizeable percentage of children would require fewer services after five to six years of intervention than they initially required.

For some children who did move to less restrictive environments, particularly from Level 4 or 5 classes to regular classes, performance tended to be quite rocky. As illustrated in the case studies, grade repetition, a high level of support, teacher concerns regarding academic performance, language functioning, and social interaction were characteristic. The image of a child who is evaluated by DESC, provided with special services as a preschooler, and then is able to be a successful first or second grade student, seems to have few counterparts in reality.

## FINAL COMMENTS

Caution should be exercised in drawing implications from these findings. Specifically, these findings should not be interpreted as evidence that intervention for all handicapped preschoolers is not effective, for several reasons. First, the population followed in this study was by definition a population suspected of having problems in at least two areas of development. Thus they were not a representative sample of handicapped preschoolers in MCPS. Possibly, for less involved children, the prognosis is considerably better; and many may move successfully into regular classroom settings after receiving preschool special education. Two studies are currently being conducted by the Department of Educational Accountability which will look at the progress of handicapped preschoolers with varying degrees of impairment.

These findings may also reflect MCPS practices rather than a lack of effectiveness of intervention. That is, it may be that preschool children are considered most appropriately served in a highly restrictive, intensive setting, which may or may not be true. Because assessment tools for the preschool-age child often are weak or not available for certain aspects of development, because there is a controversy over what constitutes a preschool impairment, and because of the mandates of P.L. 94-142, service providers and policy makers may feel inclined to err on the safe side: better to serve a child too much, too soon, than to wait and see. Just as the existing handicap may influence how the child is subsequently labelled, the existing placement may influence the placement recommendations for later years. Such a tendency would work to mask the positive effects of early intervention. Thus, DESC children and their high level of services may simply be a reflection of a decision-making process which is weighted toward an intensive level of service.

Another consideration is the issue of time. Is five or six years enough time to see a significant effect of special services? If not, what would be? Possibly, early intervention has a significant impact, but many years are required before this impact can be seen in a lessened need for service.

Finally, it may be inappropriate to discuss the outcome of the DESC population, or any group of preschool handicapped children, as if this group were a homogeneous population. Results of this investigation address the possibility of differing patterns of progress and need for special education for children with various handicapping conditions. Not surprisingly, children with speech and language impairments were more likely to require, eventually (and initially), only consultative support or itinerant services, compared to children with more severe impairments. This suggests a need for redefinition of the role and the expectations of special educators for children with various handicapping conditions.

In sum, much remains to be learned about the early identification and provision of special services to young children. Even given the many unknowns in this area, it appears that DESC has been successfully identifying a group of children, who based on the level of special education required, have serious impairments. Furthermore, the DESC diagnosis of the child's handicapping condition and areas of need is confirmed by professionals who work with the children later. Unfortunately, the majority of the children continue to require an intense level of service for a number of years after their DESC evaluations. This finding needs to be interpreted cautiously with regard to its implication for the effectiveness of early intervention because of the multiple impairments of the children evaluated by DESC. All of the evidence from the follow-up study, including the children's continued need for intensive special education, suggests that DESC has been functioning well as a facility for diagnosing preschool children with special needs.

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# APPENDIX A

## TABLE A-1

### Sex of Referrals by Year of Initial Contact with DESC

Year of DESC Referral

| | 1977 | | | 1978 | | | 1979 | | | 1980 | | | 1981 | | | 1982 | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sex | N | %[a] | %[b] | N | % | % | N | % | % | N | % | % | N | % | % | N | % | % | N | % | % |
| Male | 47 | 57 | (38) | 102 | 66 | (46) | 127 | 67 | (54) | 90 | 66 | (54) | 70 | 60 | (51) | 90 | 74 | (65) | 526 | 66 | (52) |
| Female | 35 | 43 | (29) | 52 | 34 | (24) | 62 | 33 | (26) | 46 | 34 | (28) | 47 | 40 | (34) | 31 | 26 | (22) | 273 | 34 | (27) |
| Missing | 39 | | (32) | 66 | | (30) | 48 | | (20) | 30 | | (18) | 20 | | (15) | 18 | | (13) | 221 | | (22) |
| TOTAL | 121 | | | 220 | | | 237 | | | 166 | | | 137 | | | 139 | | | 1020 | | |

[a] Excluding missing data.

[b] Including missing data.

## TABLE A-2

### Race of Referrals, by Year of Initial Contact with DESC

Year of DESC Referral

| | 1977 | | | 1978 | | | 1979 | | | 1980 | | | 1981 | | | 1982 | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sex | N | %[a] | %[b] | N | % | % | N | % | % | N | % | % | N | % | % | N | % | % | N | % | % |
| Am. Indian/ Alaskan | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Asian | 5 | 6 | (5) | 2 | 1 | 1 | 11 | 6 | (5) | 3 | 2 | (2) | 5 | 4 | (4) | 8 | 7 | (6) | 34 | 4 | (3) |
| Black | 10 | 13 | (8) | 22 | 15 | (10) | 26 | 14 | (11) | 16 | 12 | (10) | 16 | 14 | (12) | 20 | 17 | (14) | 110 | 14 | (11) |
| White | 50 | 76 | (50) | 123 | 81 | (56) | 142 | 75 | (60) | 113 | 83 | (68) | 88 | 75 | (64) | 89 | 74 | (64) | 615 | 78 | (60) |
| Hispanic | 4 | 5 | (3) | 4 | 3 | (2) | 10 | 5 | (4) | 4 | 3 | (2) | 8 | 7 | (6) | 4 | 3 | (3) | 34 | 4 | (3) |
| Missing | 42 | | (35) | 69 | | (31) | 48 | | (20) | 30 | | (18) | 20 | | (15) | 18 | | (13) | 227 | | (22) |
| TOTAL | 121 | | | 220 | | | 237 | | | 166 | | | 137 | | | 139 | | | 1020 | | |

[a] Excluding missing data.

[b] Including missing data.

## TABLE A-3

### Sex of DESC Referrals by Accepted/Not Accepted

| | Accepted | | | Not Accepted | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| | N | %$^{a}$ | %$^{b}$ | N | % | % | N | % | % |
| Male | 367 | 65 | (54) | 159 | 67 | (46) | 526 | 66 | (52) |
| Female | 196 | 35 | (29) | 77 | 33 | (23) | 273 | 34 | (28) |
| Missing | 115 | | (17) | 106 | | (31) | 221 | | (20) |
| TOTAL | 563 | | | 236 | | | 799 | | |

[a] Percentages exclude missing data.

[b] Percentages include missing data.

## TABLE A-4

### Race of DESC Referrals by Accepted/Not Accepted

| | Accepted | | | Not Accepted | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| | N | %$^{a}$ | %$^{b}$ | N | % | % | N | % | % |
| Asian | 27 | 5 | (4) | 7 | 3 | (2) | 34 | 4 | (3) |
| Black | 88 | 16 | (13) | 220 | 9 | (6) | 110 | 14 | (11) |
| White | 418 | 75 | (62) | 197 | 84 | (58) | 615 | 78 | (60) |
| Hispanic | 24 | 4 | (4) | 10 | 4 | (3) | 34 | 4 | (3) |
| Missing | 121 | | (17) | 106 | | (31) | 227 | | (23) |
| TOTAL | 557 | | | 236 | | | 793 | | |

[a] Excluding missing data.

[b] Including missing data.

## TABLE A-5

### Most Intensive Program
### by Accepted/Not Accepted

| | Accepted | | Not Accepted | |
|---|---|---|---|---|
| | N | % | N | % |
| **Special Education Resource** | | | | |
| Elementary Emotional Impairment/ Specific Learning Disability | 0 | 0 | 2 | 2 |
| Elementary Resource Room | 36 | 11 | 18 | 19 |
| Secondary Resource Room | 1 | 0 | 1 | 1 |
| Total | 37 | 11 | 21 | 22 |
| **Elementary Special Class** | | | | |
| Early Childhood | 10 | 3 | 0 | 0 |
| Preacademic | 19 | 6 | 1 | 1 |
| Mentally Retarded | 9 | 3 | 3 | 3 |
| Learning Disabled | 34 | 10 | 10 | 11 |
| Emotionally Impaired | 3 | 1 | 0 | 0 |
| Total | 75 | 23 | 14 | 15 |
| **Secondary Special Class** | | | | |
| Mild Learning Handicapped | 4 | 1 | 0 | 0 |
| **Other School-based Programs: Not Special Education** | | | | |
| Intensive English Language Centers | 0 | 0 | 1 | 1 |
| **Alternative Centers** | | | | |
| Parent-Infant Program | 3 | 1 | 3 | 3 |
| Alternative Center Early Childhood Program | 8 | 2 | 0 | 0 |
| Elementary Learning Center | 54 | 16 | 7 | 7 |
| Secondary Learning Center | 1 | 0 | 1 | 1 |
| Alternative Center Satellite Program | 4 | 1 | 0 | 0 |
| Mark Twain | 1 | 0 | 0 | 0 |
| Samuel Clemens School | 1 | 0 | 0 | 0 |
| Concord School | 4 | 1 | 0 | 0 |
| Longview School | 3 | 1 | 1 | 1 |
| Stephen Knolls School | 8 | 2 | 3 | 3 |
| RICA | 2 | 1 | 0 | 0 |
| Total | 89 | 25 | 15 | 15 |

TABLE A-5 (Continued)

| | Accepted | | Not Accepted | |
|---|---|---|---|---|
| | N | % | N | % |
| **Auditory Programs** | | | | |
| Class | 5 | 2 | 1 | 1 |
| **Orthopedic Program** | | | | |
| Orthopedic | 5 | 2 | 1 | 1 |
| **Speech and Language Program** | | | | |
| Early Childhood | 4 | 1 | 1 | 1 |
| Itinerant-Consultant | 1 | 0 | 1 | 1 |
| Itinerant-Direct | 31 | 9 | 10 | 11 |
| Resource | 3 | 1 | 1 | 1 |
| Class | 22 | 7 | 8 | 8 |
| Total | 61 | 18 | 21 | 22 |
| **Vision Program** | | | | |
| Early Childhood | 3 | 1 | 2 | 2 |
| Itinerant | 1 | 0 | 1 | 1 |
| **Other Educational Programs** | | | | |
| Reading | 1 | 0 | 0 | 0 |
| Nonpublic | 45 | 14 | 15 | 16 |
| Total | 46 | 14 | 15 | 16 |
| **Related Services for Handicapped Students** | | | | |
| Speech Pathology | 1 | 0 | 2 | 2 |
| Occupational Therapy for School-based Programs | 4 | 1 | 0 | 0 |
| Developmental Evaluation Services | | | | |
| Speech and Language Evaluation (as an early identification/assessment) | 0 | 0 | 1 | 1 |
| Total: All programs | 334 | | 95 | |

Note: Only students present receiving special services included. N = 429

# APPENDIX B

## CASE STUDIES

Sam
Mary
Sarah
Bob
William
James
Peter
Joseph
Clifford
Kathleen
Andrew
Patrick
Edward

# SAM

Sam is a DESC referral who was placed in a special program following contact with DESC and was in such a setting at the time of the most recently available information. Sam, a child with Downs Syndrome, was referred to DESC in October, 1978, at 18 months of age by the director of a Level 5 nonpublic program where he was enrolled as a student. The educational evaluation indicated delayed development in all areas (8- to 12-month range), with the greatest need in language (at the 6-8 month level). He was found to be socially "well-adjusted" and ready to learn, with needs in expressive and receptive language, motor skills, and behavior management. DESC recommendations were placement in a small preschool with focus on all areas of development, counselling for the parents regarding behavior management, and genetic counselling. Sam returned to his nonpublic program. In December, vocalizations were noted to be increasing, and he was pulling himself to stand and walking unsupported. Social and emotional skills, his strong point, were reportedly at the 20-month level, but speech and language functioning remained below one year. By April, 1979, progress in all areas was reported. He was able to imitate a few nonverbal sounds (lip smacking, blowing) and could focus on and receptively identify a few pictures.

Sam continued in his program for the school year 1979-80. His needs at the beginning of the year focused on speech and language and attending skills. A speech and language evaluation early in the year noted appropriate responses to some simple commands, use of several single words, jargon accompanied by gestures, and frequent tongue protrusion. By April, attention span and cooperation had reportedly improved greatly; however, distractibility and low frustration level continued to interfere with learning. Described as "very expressive," these abilities were more likely to be frequently intonated jargon than actual strings of words. He did, however, have "lots of socially useful words"; articulation remained notably impaired. Self-help and social-emotional skills continued to be strong areas for Sam.

Sam continued in the same Level 5 program for the school year 1980-81. Weaknesses noted at the beginning of the school year were articulation and intermittent resistance to group participation. Strengths were noted to be in tone and balance, self-help, receptive language skills, and social functioning. A comprehensive evaluation in October, when he was 3 years, 7 months, indicated poorest functioning in language areas (at approximately the two- and one-half-year level), motor skills between two and one-half and three, and social and emotional abilities "approximately age-level." The following month, behavior and language abilities had reportedly improved. In May, another comprehensive evaluation was done. He was noted to be speaking in two- and three-word phrases. Functioning in most areas was at and around the three-year level.

Sam remained in his same program during 1981-82. His weak areas remained those noted at the beginning of the 1980-81 school year. He reportedly had good receptive skills and was very social, friendly, independent, and "very vocal." Goals for the year focused on improving speech and language skills and refining certain prewriting and cutting skills. Comprehensive assessment indicated gross motor and self-help skills approached age level, with language, cognition, and fine motor skills approximately a year to a year and one-half below chronological age. In March when Sam was 4 years, 11 months old, an extensive educational progress report described Sam's functioning. Gains in fine motor skills and all areas of language were noted. Sentence length had reportedly increased to four word utterances. Articulation remained "distorted," although a significant reduction in the omission of sounds was reported. His teacher described him as a "joy" to work with and an enthusiastic and happy child. Psychological evaluation done during the month indicated an IQ of 79; it was suggested that Sam had good potential for learning in a highly structured academic program. At the end of the school year, it was recommended that Sam continue in the same Level 5 program (handicapping condition: multihandicapped) because of his need for a small class with much repetition and intensive speech and language therapy.

Sam entered the program again in September, 1982, receiving physical therapy consultation and individual speech and language therapy three times weekly. His strengths at that time were noted to be receptive language comprehension, gross motor abilities, his independence, and his social skills with peers. Weaknesses were reported in the areas of articulation, expressive language, fine motor, and in his inconsistent social skills with adults. Comprehensive testing at that time (C.A. 5 years, 5 months) indicated gross motor, receptive language, social-emotional, and self-help skills were between four and five years. Expressive language, fine motor, and cognitive skills were slightly more depressed. Goals for the year focused on improvement of articulation and certain language skills, fine motor and balancing, and following the daily routine. Sam received an extensive speech and language evaluation in March, 1983. His speech was noted to be intelligible with "careful listening." Articulation remained severely impaired. A psychological evaluation during that month recommended placement in a preacademic program for the retarded and speech and language therapy. At the end of the school year, the greatest area of concern for Sam remained his articulation skills. He had shown much improvement in fine and gross motor skills but continued to have some difficulty relating to adults. His motivation and independence reportedly were his strong assets.

## MARY

Mary was a DESC referral who was placed in a special class following contact with DESC and was in such a setting at the time of the most recently available information. Mary has been cared for by her grandmother since birth. She was referred by her local health center for a speech and language evaluation in June, 1977, when she was 2 years, 3 months, but the family did not pursue this until November of the same year. At that time, (CA: 2 years, 8 months) she reportedly had no words and exhibited hand flapping, remoteness, claw-like hand shaping, facial grimacing, and screaming. She was referred to DESC the same month. The family reportedly had "difficulty following through" with this recommendation, so individual appointments were set up with the speech-language pathologist, the audiologist, and the psychologist. In January, 1978, Mary was seen by the DESC psychologist who noted no communication, no attempts at relating, and a striking lack of emotion. Possible diagnoses of severe hearing loss, mental retardation, or autism were raised. The speech and language evaluation was done the following month: hearing was within normal limits, and speech and language were delayed. Mary reportedly had five to eight meaningful words although none were noted during testing. She was able to follow some directions but generally paid little attention to other individuals. In March, Mary's case was discussed by the MCPS Central Placement Committee, and she was referred to a Level 5 preschool program.

Mary entered the program in April, 1978, attending three mornings per week, with monthly home visits. Initially, she was noted to have fleeting eye control, expressive squeals but no language,,age-appropriate motoric development, and delays in personal-social and problem-solving skills. A summary report two months later reported developmental gains in all areas, for example, increased eye contact and attention, and sustained interest in pictures and music. However, Mary continued to give little attention to voices and to be unresponsive to her name. In October, she was still exhibiting bizarre behaviors and had "only distressful noisemaking." Her IEP for the school year 1978-79 listed needs in improving attention, language skills, social responsiveness, behavioral controls, and self-help abilities. In June, 1979, her end-of-the-year report noted she was still without consistent eye contact, remained averse to physical contact, engaged in self-stimulatory behavior, and was upset by changes in the daily routine. Cognitive testing (C.A.=4 years 3 months) indicated gains. Mental abilities were at 30-32 months and motor at 30 months on the Bayley Scales of Infant Development. Receptive language was at the 31-month level, with expressive skills at 18 months. Gains in daily functioning in the classroom included an awareness of daily routines, attention to task, some vocalization of words, and emerging self-help skills. Mary's grandmother was described as a "wonderful teacher" who spent many hours at home working with Mary on developing new skills.

Mary continued in her Level 5 program for the school year 1979-80. In September, deficits included distractibility, unrelatedness, resistance, noncompliance, shrill screaming, and wetting and soiling four to five times a day. If left alone, she would babble to herself. A behavior management program was used, which included reinforcements and removal for noncompliance. Three months later, similar deficits were reported by her teacher, with a notation that she "enjoys reading." Assessments indicated skills ranged from 18 months, e.g., social-emotional and language, to 4-5 years, e.g., prereading. In May, Mary was evaluated by an MCPS psychologist who described her as attentive and cooperative during testing. Advanced skills in reading and math but significantly delayed expressive language were reported. Echolalia was noted from time to time. The psychologist noted that Mary's behaviors and development "suggest autism." End-of-school reports noted the she continued autistic-like characteristics, uncontrolled tantrums, and delays in motor skills. However, Mary had improved in her ability to sit and attend for longer periods, was more compliant, and was beginning to seek adult attention and approval. In addition, soiling and wetting had been extinguished. Verbal communication was characterized by "immature sentences," misarticulations, and pronounced echolalia.

Mary continued in her Level 5 program for the school year 1980-81. End-of-year reports noted significant gains in academic development: age-appropriate reading skills and strong math skills, slow but steady progress in peer interactions, and independent self-help skills. A highly structured environment continued to be the most effective situation for learning. Non-compliant behaviors had decreased "dramatically" during the year. Progress in comprehension and expression of language was reported. Her major deficit was considered her "social and emotional development."

Mary remained in her Level 5 program for 1981-82. At the beginning of the school year when she was 6 1/2 years old, her teacher described her as having severely delayed language, with intermittent echolalia; two or more tantrums per day, accompanied by disorientation and bizarre verbalizations; and poor gross motor muscle tone. She was reportedly independent in dressing and toileting. A teaching environment with high structure and a repetitive format was utilized with Mary and found to be effective. In May, 1982, her primary deficits were described as "attending" and "noncompliance." A need for one-to-one attention in a small group persisted. A decrease in screaming and tantruming had occurred during the year, apparently associated with learning to verbalize her need for assistance. Social emotional skills had improved "greatly." Continued improvements in reading and math were reported. Her teacher noted that she had "come a long way from the beginning of the year."

Mary began 1982-83 in the same Level 5 program but was transferred to an alternative center during the year. She was evaluated by an MCPS psychologist in September, 1982. Motor development was noted to be approximately two years below age level. Personality and emotional development were impaired and delayed. Perseveration, grimacing, echolalia, and insistence on perfection were observed. She exhibited little or no interest in relating to the examiner. Bizarre behaviors increased with more difficult items. She was noted to "take no joy or show no creativity or imagination." The possible emergence of the ability to form emotional bonds was suggested. Excellent reading and math skills were documented. Weaknesses included behavior, motor skills, and the ability to integrate or generate ideas.

## SARAH

Sarah is a DESC referral who entered a special class following contact with DESC and was in such a placement at the time of the most recently available information. She was referred to DESC in April, 1978, by her nursery school at age 3 years, 5 months, because of poor eye-hand coordination and decreased visual acuity. Psychological evaluation indicated intellectual abilities within normal limits. Attention span and distractibility were felt to be age-appropriate. Speech and language skills were at approximately the three-year level. Articulation was moderately impaired, with expressive speech reportedly difficult to understand. A three- to six- month delay was found in all other areas except personal-social. A small structured class with speech and language therapy was recommended. Sarah entered a Level 5 program in June and received speech services twice weekly. Several months later, language skills remained delayed, particularly in the areas of grammar, articulation, and fluency.

Sarah continued in her program for the 1978-79 school year and received speech and language therapy and itinerant occupational therapy. In September, receptive skills were noted to be within normal limits. Delays in grammar and reduced intelligibility were reported. There were also fine and gross motor delays. Social-emotional skills were considered adequate. A mild bilateral hearing loss (conductive pathology) was detected in October. By January, improvements in amount of expressive language and fluency were reported. Good peer interactions were observed. Three months later, hearing was found to be within normal limits. By school's end, delays in gross and fine motor skills and expressive grammar persisted.

During 1979-80, Sarah continued in her Level 5 program. She received extensive testing during the year. On the Detroit Test of Learning Abilities, scores ranged from 4 years, 3 months to 8 years (C.A.=5 years, 6 months), and on the Hiskey-Nebraska, from 4 to 5 years. Functioning was judged to be age-appropriate in all areas by year's end. In June, she was noted to be "talking more." The only remaining areas of concern were her resistance to interacting with her peers and a mild to moderate articulation disorder. Placement in a regular kindergarten with itinerant speech and language therapy was recommended for fall, 1980.

Sarah entered kindergarten in September, 1980, with speech and language support (one-half hour, four times each week). In September, her teacher noted possible deficits in fine motor skills and requested an evaluation. Sarah scored below age level on a measure of prewriting skills (3 years 10 months on the Berry Test of Visual-Motor Integration). Resource support was recommended (itinerant occupational therapy once weekly with primary Resource Room 1/2 hour four times each week). In December, her teacher reported that Sarah related well to both her peers and to adults but that she had difficulty completing desk work and functioning independently in self-help areas. Sarah received a further evaluation at the end of the school year. Although "needs" in articulation and auditory discrimination were noted, these needs were apparently not a major concern because dismissal from active speech and language therapy was recommended.

Sarah entered first grade in September, 1981. Several months later, her teacher noted that although she worked well on an individual basis, Sarah was easily distracted and often disruptive in class. She was reluctant to become involved in group activities and had few friends. Problems in fine and gross motor functioning were noted; "adaptations" within the classroom had been done to alleviate and compensate for motor problems. In addition, she was receiving occupational therapy twice weekly. In December, a psychological evaluation was recommended and completed the following month. Results indicated average intelligence with severe deficits in fine motor and visual perceptual areas. Placement in an elementary learning center was recommended. In addition, a speech and language assessment was also performed that month; misarticulations (s,z,r) were identified. Intervention for the next school year was suggested. Throughout the winter and spring months, her teacher reported difficulties functioning in class activities, distractibility, poor self-concept, poor peer relationships, and delayed motor development. No measurable progress had occurred. These factors entered into the decision to place Sarah in a learning center for the fall of 1982.

Sarah entered an alternative center in the summer of 1982 and attended for the school year 1982-83. She received speech and language therapy three times weekly, occupational therapy once weekly, and motor development daily. Goals focused on reading, language, writing, and social-emotional areas. In the spring, a comprehensive report indicated that she was making progress in reading (at about the preprimer level) and math (at the first grade level). However, she continued to exhibit little interaction with her classmates. Progress in handwriting had been slow: "a very difficult area which needs lots of positive reinforcement." Reports from the speech-language pathologist indicated that despite attention to /s,r,z/ throughout the school year, Sarah was still unable to articulate the sounds correctly, even in isolation. In addition, the quantity and quality of her verbal communication was deficient.

## BOB

Bob represents a DESC referral who was placed in a special class following contact with DESC but was not in such a setting at the time of the most recently available information. Early development was suspect. He had seizures when he was two days old, was not sitting at nine months, and spoke only a few words at two and one-half years. From a bilingual home, Bob reportedly had language difficulties also in his native language. He was referred to DESC in July, 1978, at age 2 years, 7 months, by his parents because of delays in speech and coordination. Delayed development in all areas was detected, with functioning at approximately the 18- to 21-month level, with the exception of language which was much lower (below one year). No spontaneous verbalizations were heard. Some perseverative and manipulative behaviors were observed. Bob was considered a child with developmental delays in all areas, a CNS dysfunction, a large head, and possible petit mal seizures. Placement in a preschool program was recommended, as was an EEG and neurological consultation. The latter was done the following month. No focal neurological findings were detected; but because of a question of hydrocephalus, a CT scan was done, which was found to be normal. The EEG was abnormal, and repeated, at which time he was put on Dilantin. Three months later, the medication was discontinued because there had been no further observation of staring spells.

Bob entered a Level 5 preschool program in September, 1978, at age 2 years, 9 months. Upon entry, he reportedly had a limited number of single words, which he rarely used spontaneously. By December, he had progressed to using two- and three-word phrases. His articulation was marked by omissions and distortions. Gross motor and fine motor skills were between two and three years. In April, fine motor functioning remained a concern, as did language. His self-help skills were judged to be age-appropriate. At the spring ARD meeting, goals for 1979-80 focused on increasing vocabulary, improving articulation and understanding of concepts, and increasing sentence length.

Bob continued in the same program for the 1979-80 school year, receiving adaptive PE, OT, PT, speech and language therapy (both individual and group therapy), and consultative psychological services. Speech and language testing indicated receptive and expressive language functioning at slightly below three years. In February, 1980, his school progress report indicated that continued attention to fine and gross motor functioning was necessary. There had reportedly been "considerable" improvement in language, with functioning at the three-and-one-half to four-year level. Continued participation in his current program was recommended because of persistent deficits in all areas.

In September, 1980, however, Bob entered kindergarten, with speech and language therapy. In October, large motor difficulties and severe small motor difficulties were noted, and it was recommended that he receive special PE services. The following month, poor work habits were noted in the areas of organization, attention to task, and following directions. However, no other notations were made until March, 1981, at which time there was a parent conference. At that time, his distractibility and "language processing" deficits were discussed. It was recommended that he continue in speech therapy and working with the PE teacher in large motor activities.

Bob returned to the same elementary school for first grade during 1981-82.

He received speech therapy and Level 2 resource help. In December, a parent conference was held to discuss Bob's fine motor deficits and how they interfered with his counting, writing, and reading. A shift from Level 2 to Level 3 resource help was recommended. At that time, his language difficulties were also discussed, particularly his oral expression deficits. By April, his teacher noted good progress in all areas, with verbal skills having improved "greatly." An occupational therapy evaluation in May detected significant delays in both fine and gross motor skills, including muscle weakness, low tone, and tremor. OT services were recommended. A speech and language evaluation was also done that month at the age of 6 years, 5 months. Results indicated that Bob had a moderate language problem with deficits in receptive vocabulary (age equivalency 4 years, 11 months), basic concepts (5th percentile), abstract language, and attending skills. Continued itinerant speech and language therapy was recommended. Other needs, as indicated by the teacher, were expressive language and math. His strengths were spelling, phonics, and a "good attitude."

Bob continued in second grade at the same elementary school during 1982-83, receiving itinerant speech and language, resource, and OT services. Gross and fine motor skills remained depressed, as noted in December. Teacher notes in February, 1983, described Bob as a good worker. End-of-school reports indicated good progress during the year: all first grade objectives had been achieved, and following directions and attending had improved. Concerns about gross and fine motor skills persisted. For example, at age 7 years 5 months, he scored 5 years, 3 months on the VMI. His verbalizations remained minimal, and he tended to rely on "clues from peers" to know how to function in class. Continuation in speech therapy was recommended.

# WILLIAM

William was a DESC referral who was placed in a special class following contact with DESC but was not in such a setting at the time of the most recently available information. In September, 1977, he was enrolled in a nursery school program where his teachers noted poor interaction with his peers, poor attention span, poor motor coordination and self-help, and unintelligible speech. In January, 1978, at age 2 years 10 months, he reportedly was not making sentences, and his mother was "concerned." In May, however, his mother noted that because he was making sentences and was intelligible to his family and others, her concerns no longer existed. Nonetheless, the family proceeded with the DESC evaluation upon referral by the nursery school teacher who reported delays in all areas, particularly speech and language. The teacher noted the parents were "unaware" of William's problems.

Speech and language testing by DESC in June, 1978, revealed receptive and expressive delays. Some short phrases, frequent jargon and echolalia, and poor intelligibility were noted. Educational and psychological testing revealed delays in all areas (1.75 to 3.5 years) and borderline intellectual functioning (IQ 74 Stanford-Binet). It was recommended that William attend the DESC diagnostic nursery for 3 to 6 weeks. In addition, certain medical tests were ordered to rule out a metabolic or genetic disorder (his sister was retarded and attended an alternative center in MCPS). He attended the diagnostic nursery during July, 1978. His greatest difficulties centered on processing verbal directives. His distractibility and behavior were easily managed by setting firm limits. It was recommended that William be placed in a small structured program with focus on language intervention.

William entered a Level 5 nonpublic program in September, 1978, where he received individual speech and language therapy twice weekly. Receptive language was reportedly below age level, and expressively he communicated in 3-4 word utterances which were ungrammatical and frequently unintelligible. Word retrieval problems, jargon, echolalia, and perseveration were noted. Goals focused on remediation of these deficits. By January, 1979, length of sentence had reportedly increased, but deficits noted above persisted, as did fine and gross motor problems. His "primary problem" according to his teachers was receptive language, with accompanying word retrieval problems. Cooperative behavior was reportedly more frequent, and he was noted to interact well with his peers. A speech and language evaluation in March, 1979, noted poor use of language: William did not attempt to initiate any verbal interaction. He would follow directions, but repetition was often necessary; a blank stare was frequently his only response. In June, gains in language were reported, but receptive and expressive language remained severely delayed. Quantity of appropriate utterances had increased, and intelligibility had improved. Continued placement in this Level 5 program was recommended.

William returned to his program for the 1979-80 school year. In September, he was noted to have significant deficits in auditory processing, copying and motor planning deficits, and inconsistent gross motor skills. He received frequent assessments during the year. In May, significant improvements were reported in receptive vocabulary (Peabody Picture Vocabulary Test score was two months above age level), concepts, and expressive language, which remained two years below chronological age. Word retrieval and formulation problems persisted (for example, a jail is a ...? "a live...a policemen's...a cage for...the...to the army."); gross and fine motor abilities remained delayed. The following month, a CARD meeting recommended placement in a primary self-contained language class for the following school year.

William attended a primary language disorders classroom during 1980-81. He received speech and language therapy and counselling (to improve his self-concept and interpersonal relationships). In addition, he was mainstreamed into first grade PE, music, art, and math. In September, his parents requested that the report of a recent psychological evaluation be destroyed, and it was. In November, his teacher noted he was making satisfactory progress. He had good work habits and was cheerful and cooperative. Reading was at the pre-primer level. Similar reports were given in February and April. Extensive language testing occurred in March (C.A. 6 years, 4 months) with scores ranging from 4 years, 10 months to 8 years, 4 months. William's most serious problems were described as word finding and formulation of expressive language. Good progress had occurred during the year in articulation. All first grade reading and math objectives had been achieved. Despite improvement, fine motors deficits persisted and adaptive PE was recommended. Although he was described as generally "cheerful," an increase in crying spells and general anxiety had been observed recently. The psychologist who worked with William in a counselling setting noted improvements in social and emotional skills. Continuation in the self-contained language class was recommended for 1981-82.

William attended a different elementary school during 1981-82 but remained in a primary language disorders classroom. In November, his teacher noted he was making "satisfactory, outstanding progress" in class but reported he had some difficulty getting along with his peers. In February, his language problems were still a "serious concern," but good progress was noted in both language and academics. Mainstreaming in math, science, social studies, art, and PE reportedly was successful. Family counselling, to begin as soon as possible, was suggested to the parents. In May, 1982, his misarticulations were noted to be occasional /r/ and /th/ errors; expressive syntax remained delayed. His other needs were in the social-emotional area. It was recommended that he enter a regular second grade, with counseling and itinerant speech and language (handicapping condition: speech and language impaired).

William spent his first year in a regular class placement during 1982-83. The following month, his teacher noted that he was "easily upset," cried frequently, and exhibited avoidance behaviors. It was felt that his capabilities surpassed his performance at that time. Although reading and math were on grade level, he often did not complete his work. However, notations from his teacher and speech-language pathologist in November and February indicated good academic and language progress, despite "daydreaming" which limited his best performance. The final notation in William's records in April, 1983, revealed a concern about his difficulty dealing with fantasy and reality which had been observed in both the classroom and language resource.

## JAMES

James was a DESC referral who was placed in a special class following contact with DESC, but did not require such services at the time of the most recently available information. He was referred to DESC in 1978 at approximately 2 years of age but was rejected because of apparently only one handicapping condition: speech and language. According to school records, he entered a Level 5, program in April, 1978, prior to his referral to DESC. However, the records from this placement were not in his school folder.

The first records on James are for the school year 1981-82, during which time he was enrolled at the same Level 5 program. Speech and language testing done during the fall (C.A.=4 years, 9 months) indicated receptive language skills scattered from 4 years to above 5. He received three language sessions per day within the classroom and individual therapy twice weekly. In March, 1982, a psychological evaluation was done at that time. However, no report was in James's folder. At that time, James was described as being at age level or above in most language skills, with his deficit being in articulation skills. His speech was characterized by numerous omissions, resulting in "vowel speech." He would become frustrated when not understood and appeared to be quite aware of his speech sound errors. His teacher noted that the most important goal for him should be to develop a better self-concept and learn to participate more appropriately in large groups. According to the April, 1982 ,IEP, James had exhibited "very good" progress in all skill areas during the school year. All skills were judged to be age-appropriate with the exception of articulation, and thus kindergarten appeared appropriate for the next school year. Continued speech and language therapy was recommended as was monitoring of fine motor abilities and self-image.

James began regular kindergarten in September, 1982, at age 5 years, 9 months and was enrolled in speech and language therapy twice weekly. An EMT meeting the following month recommended monitoring of progress. Apparently there was some discussion of the appropriateness of the frequency of therapy in light of the severity of the articulation disorder, but no changes in service delivery were made. At the end of the school year, the speech-language pathologist noted James continued to have numerous substitutions, omissions, and distortions of speech sounds; reduced verbal output; and a reluctance to participate verbally in class. He had shown only "fair" progress, and there was little of carryover of the sounds learned in therapy into conversational speech. There was no success in teaching certain sounds. The ARD meeting held in June, 1983, recommended summer speech and language therapy, but parents had transportation difficulties.

## PETER

Peter was a DESC referral who was not placed in a special class following contact with DESC but was in such a setting at the time of the most recently available information. During infancy, Peter was noted to have failure to thrive, and reports of a "poor socioeconomic environment." There were also questions of early abuse. Peter began living with his aunt in his early years, and this environment was considered a stable and positive influence. In June, 1976, he was described as having a "mild" language delay; but in November, 1977, performance on the Denver Developmental Screening Test was within normal limits. He was referred to DESC at approximately 4 1/2 years of age in 1978 but was rejected because of no apparent deficits.

He attended Head Start at two different centers during 1978-79. His teachers noted some aggressive and violent behavior, that he was "cooperative but distracted easily," and appeared to be having difficulty in perceptual, cognitive, and emotional-social areas.

In September, 1979, he entered kindergarten. Soon thereafter, an EMT meeting was held because of his poor basic skills, "unreasonable" loudness and disruptive behavior in class, and restless inattention. Following a request from Peter's family that he be placed in a smaller class, a series of evaluations occurred. Speech and language evaluation indicated language skills were low normal. He scored at the 10th percentile on the Boehm Test of Basic Concepts. He was resistant to remaining seated during testing and was often "careless and inattentive." An observation by the school psychologist in his classroom indicated that Peter was "on task" and "behaved," and that the teacher appeared to have him under control. Thus, no psychological evaluation was done. However, in November, his teacher noted no improvement in behavior and felt that Peter was still unable to count or name letters. Two months later, some improvement in behavior was noted, but academic acquisition remained slow. By April, it was determined that he was not ready for first grade. His teacher noted that he had only learned the letter "A," had great difficulty writing his name, could not count beyond 3, appeared to have some articulation errors, and exhibited difficulty with fine motor tasks, being unable to "draw anything that resembles anything." Although Peter seemed to want to be cooperative, he reportedly had difficulty focusing on a task and rarely seemed to know what he was to be doing. Psychological testing was requested and done the following month. He scored in the average range (Stanford-Binet: IQ 103). However, fine motor tasks were below average. He was described as having a learning disability characterized by an "active temperament," distractibility, short attention span, and poor visual-motor skills. The ARD meeting held in June, 1980, recommended placement in a primary SLD class for 1980-81 (handicapping condition: learning disabled).

Peter entered an SLD class in September, 1980. Reports about his performance during the first few months there indicated he had "severe" learning problems and difficulty remaining seated for longer than a few minutes. Progress occurred, but usually only in a one-to-one situation or in a "very small" group. His behavior was described as "extremely immature," and Peter rarely exchanged more than two or three sentences with his peers or an adult. The school medical advisor observed Peter and noted a "marked attention deficit." Stimulant medication therapy was recommended to the family who refused to pursue this. In January, 1981, an

ARD meeting was held because of continued concerns about Peter's high activity level, distractibility, and other deficits. His mother noted she had had Peter evaluated by a psychiatrist, who reported no emotional problems, but significant learning disabilities. In February, the school medical advisor again discussed medications with Peter's parents, who remained strongly opposed. In March, Peter began to be mainstreamed in phonics, language arts, and a "kindergarten curriculum." Progress in academic areas was noted, and kindergarten objectives were completed in most areas. However, behavioral concerns continued to be reported in the following months (e.g., needs constant monitoring, appears disoriented, and has difficulty functioning in a group). There was even the question of some behavioral deterioration: eating food out of the trash can, poor eye contact, and in perpetual motion. At the ARD meeting at the end of school, a return to the same primary SLD class was discussed; but it was recommended that Peter enter a Level 5 classroom for 1981-82 because of behavioral concerns.

Peter entered an alternative center in September, 1981, and received speech and language therapy twice weekly. Teachers noted in the first few months the same concerns as others had previously: overactivity, impulsivity, and distractibility. Although progress in learning was noted, his teachers reported his progress was hindered by his behavioral deficits. In February, 1982, his teachers again noted improved academic skills, which remained limited because of inattentive behaviors. Once more, the school medical advisor discussed medication with the parents, who once again refused. The spring brought similar reports of behaviors which impeded progress. The speech-language pathologist reported that Peter could be "very charming or very much the terror." His teacher reported that he could be very kind and concerned about his classmates and adults. In May, Peter received a psychological reevaluation. The psychologist described Peter as "one of the more overly active children I have ever observed." The testing was spread over 9-10 sessions because of his activity level. Performance on the WISC was significantly lower (WISC-R Verbal IQ=85, Performance IQ=77) than kindergarten scores. The examiner considered this a reflection of his test-taking behaviors. Peter was described as an "emotionally needy" child, not an emotionally disturbed one. It was recommended that Peter be placed in a more structured, less stimulating environment, with smaller academic groups. The ARD meeting held in June recommended placement in a Level 5 classroom at another alternative center for September, 1982, and suggested again to the parents the consideration of medication.

In September, 1982, Peter entered another alternative center. He was reading at the first grade level, and exhibited end-of-first-grade math skills. His handwriting was noted to be slow but improving, and he reportedly had good listening comprehension. Continued overactivity, impulsivity, and distractibility were noted. Peter was described as "good hearted" and sensitive and as a child who could achieve more if his behavior were under control. His teachers reported that "structure and behavior modification were "not enough." In November, the issue of medication was again discussed with the parents who noted that they had no difficulty controlling his behavior at home. Nonetheless, they agreed to a two-week trial usage. He began Ritalin in December. Within a month, his teachers reported decreased activity and increased attention span. He reportedly no longer required constant approval and attention, and gains in handwriting and reading were noted. In March, he reportedly was making "very good progress" in all subjects. However, he was having outbursts of anger, often had difficulty maintaining control over himself, seemed "very worried," and still needed "emotional support." His attention and attitude were "good." He received extensive academic and speech and language testing in April (C.A.=9 years) Language skills ranged from 6 years 6 months to age-appropriate functioning. Reading skills were between first and second grade, with math skills at almost a fourth grade level. The ARD meeting the following month recommended a return to his current alternative center in September, 1983, and dismissal from speech and language therapy. Although work habits had noticeably improved, and math skills had increased more than a year in less than one year's time, reading remained depressed, and word attack skills needed continued attention.

## JOSEPH

Joseph was a DESC referral who was not placed in a special class following contact with DESC but was in such a setting at the time of the most recently available information. His birth was two months premature, and he began having seizures at two years. His last seizure was reportedly in April, 1978, when he was five years old. He was referred to DESC in 1978-79 but was rejected because of only one apparent handicapping condition: speech and language. A preschool conference was held in the spring of 1978 because of certain concerns about Joseph which resulted from the kindergarten roundup screening. Speech and language was described as "suspect," and a recheck of skills was recommended for the fall. The parents indicated a speech, language, and hearing evaluation had been scheduled with the local health department. The teacher involved in the conference expressed concerns about visual-motor skills, suggesting Joseph was a child to "keep an eye on." A recheck was recommended for the fall because of poor letter identification.

In September, 1978, he entered kindergarten. A speech and language evaluation indicated unintelligible speech and problems with expressive grammar. Receptive vocabulary skills were above age level. Speech and language therapy was recommended and begun. Joseph's teacher noted in November that he had numerous problems: poor speech and "immature speech patterns," poor large muscle and eye-hand control, and poor understanding of basic concepts. The MSTOI administered in December indicated a need for further screening in all areas. Joseph's IEP for January, 1979, indicated that primary resource room assistance was to begin that month (handicapping condition: learning disabled).

Joseph entered first grade in September, 1979. He was tested in September and began speech and language therapy soon thereafter. In November, his teacher noted that although Joseph put forth his best efforts, his progress remained slow. The following month, his frenulum was clipped at a local hospital in an attempt to improve articulation. However, expressive language, oral movements, and articulation remained impaired after the procedure. In January, 1980, academic progress was noted to be slow. In March, a neuropsychological evaluation (not recognized by MCPS because the examiner was a candidate for Ed.D) was done. Results indicated that Joseph had average intellectual abilities but a complex learning disability that cut across visual, auditory, and motor channels. Also in March, Joseph received an occupational therapy evaluation. His performance on most measures was well below expectation for his age. Therapy was recommended. The following month, his teacher noted that he needed "more services than a regular class can offer him." He was described as a child who "wants to learn," but his teacher felt his "disability" was "slowing him down." He was beginning to read and continued to exhibit diligence and genuine effort on task. In June, an MCPS psychological evaluation was done because of Joseph's "multiple problems." Intellectually low-average, Joseph was found to have significant visual-motor problems, expressive-receptive language problems, and delays in reading. A class with a small teacher-pupil ratio was recommended. The ARD meeting also held that month followed through with those recommendations by placing Joseph is a special class for the learning disabled with speech and language support for the fall of 1980.

In September, 1980, Joseph entered the primary LD classroom. He began speech and language therapy twice weekly soon thereafter. In November, his teacher noted "aimless wandering and fiddling," and an indifferent air regarding completion of work. There was concern about his lack of motivation. The following month, his teacher noted that progress to date had only been fair. Math and reading skills were at the early second grade level, and his handwriting was generally "fair to poor." He reportedly had difficulty maintaining attention and staying in his seat. According to his teacher, he did not seem to "take school seriously." By February, 1981, Joseph was reportedly doing more work at school, but he continued to be easily distracted and involved in the activities of others. In April, speech and language testing indicated errors on only the later developing sounds and continued oral-motor deficits. Joseph's teacher expressed continued concerns about distractibility and motivation. At the end of the school year, the speech language pathologist noted that Joseph had made "some" progress in certain speech sounds; but expressive language and oral motor abilities remained impaired. Continued therapy was recommended for 1981-82. Joseph' teacher's final comments noted that he often was involved in "daydreaming" and "minding everyone else's business."

Joseph continued in the LD class for 1981-82. He was mainstreamed in math, science, and PE and received itinerant speech and language therapy. In assessing his knowledge of letter names, his teacher noted at the beginning of school that it was difficult to determine if his speech impairment influenced his performance or if indeed he had forgotten certain sounds. In November, Joseph was reportedly making progress and adjusting well to new students and teacher. He appeared more "serious" about his assignments than a few months previous. By January, 1982, he was noted to be working well and making progress academically, although independent desk work was an area which needed improvement. By April, improvement had been noted in this area. At the ARD meeting in May, 1982, it was reported that Joseph had made "good" progress in reading during the year. He reportedly needed improvement in written work, study skills, and working independently. Nonetheless, according to his teacher, it had been a "great" year for Joseph. He also had made "good" progress in speech and language therapy but was inconsistent in his use of certain grammatical forms which had been the focus of therapy. He was described as having a persistent moderate articulation problem, with expressive language and oral deficits. Reports from mainstreamed classes indicated average or above average performance. Continued placement in a primary LD class, with itinerant speech and language therapy was recommended for 1982-83.

Joseph continued in the LD class in September, 1982. He was mainstreamed in math, PE, social studies, and science. In November, his teacher reported progress in all areas but a continued need to focus on and independently complete his desk work. By February, this had improved, and the teacher suggested that this was perhaps attributable to improved reading skills. Academic and speech and language testing occurred in February and March, 1983. In April, Joseph was noted to be working "very independently" and participating well in class. End-of-the-year speech-language pathologist's report indicated "excellent" progress particularly in oral and written expression. Because of mild-moderate articulation errors and mild expressive language deficits, continued itinerant therapy for 1983-84 was recommended. In addition, it was recommended that he continue in an intermediate LD program (handicapping condition: learning disabled/speech and language impaired).

## CLIFFORD

Clifford is a DESC referral for whom a special class was not recommended but who was in such a setting at the time of the most recently available information. His family has a long history of mental health intervention, and there was involvement with Protective Services early in his life. In November, 1977, at age 3 years, Clifford was referred to DESC by the Department of Social Services because of excessive activity and disciplinary problems at home. At that time, his mother reported that he had "a mean streak" and was purposefully "pestering" her at home. She described him as a "difficult" child, constantly in motion, with violent behavior, throwing, and hitting. Results of the DESC evaluation indicated that speech and language, intellectual functioning, and educational skills were within normal limits. He reportedly responded to verbal praise, usually with "a beaming smile and a light of enjoyment." No tantrums or negative behaviors were observed by any of the examiners. Medical examination revealed constitutional hyperactivity. Clifford's difficulties were considered to focus on parent-child interaction, and his inappropriate behaviors occurred when he was in his mother's presence. Recommendations were that his mother continue in psychiatric counselling, that Clifford enroll in a regular nursery program, and that his mother observe in order to learn behavior management techniques. In February, 1978, an ARD meeting was held, and placement in a noncategorical special preschool was recommended. It is not clear from the records why the ARD meeting was held since DESC had not recommended a special education placement. He entered the special class in April. In May, his teacher noted that he was liked by his peers and was "well aware of the limits within the class." He was described as shy and quiet, easily contented, and goal oriented. Preacademic and basic concepts were reportedly age-appropriate.

Clifford was in kindergarten in Montgomery County Public Schools during 1978-79, but there were no unusual records for this year.

He entered first grade in September, 1979. At that time, he was noted to score "very low" on certain academic measures, scored only 15 percent correct on the Boehm Test of Basic Concepts, and was noted to have a "very short attention span" and poor small muscle coordination. Three months later, it was noted that the mother needed to attend counselling and that she had been unreliable in keeping appointments with Family Services. By February, Clifford was described as having "tremendous" behavior problems: extreme self-criticism, violence when encountering difficulty, and expressions of hatred of home and school. In April, an EMT meeting was held to discuss his behavior. At that time, it was reported that he had threatened to harm himself (he had in the past swallowed shoelaces) and others, had exhibited inappropriate behavior in class, become violent and then extremely docile, and fallen asleep on becoming very angry. It was recommended that he repeat first grade and receive Resource Room help.

Clifford attended two elementary schools during the 1980-81 year, repeating first grade. His IEP early in the school year noted he needed work in visual memory, recognizing and naming letters, and following directions. By November, some improvement in his attitude about school had been observed; and although progress was reported in academic skills, he remained below grade level in reading. By June, he had mastered first grade objectives. No descriptions or reports regarding behavior during this school year were found in the records.

Clifford entered second grade, and transferred to another elementary school in March, 1982. In April, he was noted to have difficulty following verbal directions, completing written assignments on time, and returning homework. Good progress in reading was reported. His teacher noted on his June report card that he had "really improved in all areas this semester."

Clifford entered third grade in September, 1982, and experienced his most disruptive, tumultuous year to date. In November, he was suspended from school twice because of leaving school without permission and because of aggressive behavior which included throwing a chair. His teacher noted that he generally refused to do his work, that he was aggressive and angry toward his peers and adults, and often was "fighting, talking back, throwing, and breaking." An EMT meeting was held, at which time Clifford's mother related her observations at home of unreasonable fears, bedwetting, a lack of self-control, lying, and poor cooperation. Psychological testing was recommended and begun the same month. Clifford was described as "sad" and had no eye contact. His mother was present for the testing and was noted to scream at Clifford and become agitated when he indicated that he did not know the answers to certain questions. Although she was asked to refrain, she did not, and the testing was terminated. Testing was completed at school the following month with Clifford's mother not in attendance. Intellectual functioning was within normal limits: WISC Verbal IQ:91, Performance IQ:101. The psychologist stated that "beneath all Clifford's behaviors lies a sadness and loneliness he only knows how to relieve by filling the emptiness with involvement in conflict." A "serious" emotional problem was noted, and placement in an Emotionally Handicapped classroom with individual psychotherapy was recommended. An ARD meeting was subsequently held, at which time Clifford was noted to be at age level in academic areas. He reportedly recently had begun medication for his behavior. However, he was described as a "danger" in class; and although home instruction was discussed, the final recommendation was a level 4 EH classroom placement as soon as possible. In January, another ARD meeting was held to discuss 1) lack of compliance at home regarding administering medication which reportedly had helped in reducing behavioral outbursts, 2) his constant themes of violence, and 3) safety in the classroom when Clifford was out of control. Two months later, his teacher noted that when he was not on his medication, no behavior management approach was effective. At the CARD meeting, administrative placement at an alternative center (Level 3) was recommended. A psychological report in June noted that Clifford's behavior had been unpredictable since his entry to the alternative center, including one episode of stabbing a peer with a pencil. Again, the need for psychotherapy was reiterated. His teacher noted that although Clifford had a great number of skills, he was selective in using them. In addition, he needed consistent limits and consequences. He reportedly had shown improvements in the seven weeks he was at the alternative center, but problems in completing his homework persisted. According to school personnel, Clifford was to be considered during summer of 1983 for placement in a program for emotionally and behaviorally disordered children in the fall of 1983.

## KATHLEEN

Kathleen is a DESC referral who was not placed in a special class following contact with DESC but was in such a placement at the time of the most recently available information. In May, 1978, at the age of 4 1/2, she entered Head Start. In the fall, she entered another Head Start program in a different location. Gross and fine motor, language and preacademic deficits were noted soon thereafter. A speech and language evaluation indicated delays in certain abilities. Receptive vocabulary knowledge was two years delayed, with certain expressive skills 18 months delayed. Kathleen began receiving speech and language therapy. In December, 1978, muscle weakness was identified by the Health Department.

In March, a psychological assessment by DESC indicated a verbal-performance discrepancy (performance lower), with intellectual functioning in the low average range. Concerns of the psychologist included fine and gross motor skills, auditory processing, word retrieval, and visual-motor perceptual integration. Placement in a specific learning disabilities class was recommended for 1979-80. A physical therapy evaluation was also done in March through DESC. Gross motor skills were found to be more than one and one-half years below chronological age. The DESC educational diagnostic evaluation identified delayed development particularly in fine and gross motor areas.

An extensive speech and language assessment at Head Start was also done in March, 1979. Results indicated overall functioning between 3 1/2 to 4 1/2 years. Difficulties processing abstract information and word retrieval problems were detected. Kathleen reportedly produced songs, TV commercials, imitations of adult speech, and other ritualistic language during the evaluation. Some preservation of nonmeaningful phrases was noted. Speech was generally intelligible.

A parent conference at Head Start was held in June, 1979, during which time Kathleen's mother reported her observations of Kathleen which contradicted school findings. School participants noted poor interaction with peers, good interaction with adults, word-finding deficits, preservation of ideas, "great" difficulty with fine motor skills and eye-hand coordination, and difficulties dealing with change. Kathleen had reportedly become "so skillful at covering up" some of her areas of difficulty that she could give the impression that she was quite skilled in a particular area. An ARD meeting was held in July, 1979, and it was recommended that Kathleen be placed in a preacademic class.

Kathleen entered the aforementioned class in September, 1979. Initially, she was noted frequently to walk about the room and constantly question adults, repeating the same questions all morning. She reportedly was more willing to participate when activities were "auditory" in nature. Extreme distractibility, irrelevant responses, lack of motivation, and short attention span were all of concern to Kathleen's teacher. She began receiving speech and language therapy soon after school began. In January, Kathleen received extensive testing. Basic skills were found to be at the preacademic level, with severe deficits in visual perception and visual-motor coordination and a moderately severe auditory processing problem. Kathleen's teacher noted that irrelevant chattering and questioning, high distractibility, and short attention span persisted. Expressive language was characterized by unusual pitch, rhythm, and tone; repetition of phrases in a parrot-like fashion was frequent. Gains in self-concept and motivation were reported. An ARD meeting was held the following month. For the current school year, continued placement in the preacademic classroom was recommended, with itinerant speech and language therapy and occupational therapy services. In May, another ARD meeting was held to discuss Kathleen's progress. Kathleen's mother expressed pleasure with the progress she had observed at home (helping in cleaning her room), and an interest in strengthening Kathleen's ability to cope in peer interactions.

Kathleen was in a learning center placement (Level 5) during 1980-81. Her handicapping conditions were speech and language impaired and learning disabled. In November, her teacher noted a continued preference for adult attention and asking of questions to which she already knew the answer. A negative attitude and an avoidance of activities which were not self-initiated characterized Kathleen. Two months later, planning of motor tasks and interactions with peers had reportedly improved. End-of-school reports indicated that although progress had been observed, many deficit areas persisted. Kathleen was described as "bossy," often talking to her peers in a condescending manner. A great deal of "support" was required to keep her on task. Visual motor coordination continued to present "great difficulty."

Kathleen was in a second alternative center (Level 5) for the school year 1981-1982 and received numerous support services. Notations regarding progress or problems prior to February were not found in the folder. That month, her teacher expressed concerns about distractibility and her "concern with the affairs of others." Kathleen was extensively evaluated in March and April, 1982. Math skills were at a kindergarten-beginning first grade level (C.A. 8 years, 6 months). Language skills were in the 6- to7-year range. Visual-motor functioning was at 3 to 3 1/2 years. At the ARD meeting held in April, Kathleen's teacher reported her reading skills remained at a readiness level. Lack of motivation was considered a major contributing factor. Interaction with peers remained limited, and conversations continued to be often inappropriate. Kathleen interrupted lessons with out-of-context questions or would make overly personal inquiries. Motor development remained severly delayed, with possibly some regression. It was the opinion of all staff serving Kathleen that she was capable of better performance and more growth than she had demonstrated to that point.

Kathleen continued at the alternative center for the 1982-83 school year. She received motor, occupational therapy, and speech and language therapy support services. In November, her mother reported to the teacher her concerns regarding slow muscle development, distractibility, inconsistent school work, and an "over-interest" in other people's activities. The following month, Kathleen's teacher noted that Kathleen had remained basically at the same level (preacademic/kindergarten) for the last two years. She was unable to identify numbers, letters and shapes or write her name. She exhibited poor judgement. For example, when asked what she should do if someone told her to jump from a roof, Kathleen responded, "Well, first I'd need a ladder. I can't reach the top of the roof." Her teacher noted that when left alone, she tended to lose interest in an activity, would cease to be productive, and would sit and stare. Social skills remained poor. Daily routines had not been established. Kathleen's teacher noted that even after 2 1/2 years of daily instruction on calendar skills, she did not turn in the direction of the large posted calendar when asked the day or date. She would respond with "I think it's..." or give a completely inappropriate answer. Likewise, during the same length of time, she had been unable to master the daily bus departure routine (leave her chair, get her jacket, check her mailbox, put up her chair, and leave the class). Because of parental and teacher concerns about Kathleen's inconsistent performance and lack of progress, extensive evaluations were done during the winter and spring months. Psychological testing (WISC: Performance IQ=46, Verbal IQ=67) indicated a profound visual-motor and visual-perceptual impairment, with an emotional overlay developing from feelings of inadequacy and stress. Of interest was the significant drop in intellectual functioning from previous assessment, attributable in part to attentional deficits. A pediatric neurological assessment was recommended in part to address the possibility of some progressive disorder. In May, lack of progress in the classroom was again documented. Inappropriate, unrelated responses to questions, a lack of attention to most classroom activities, flat affect, and poor short-term memory were noted. Kathleen had been placed on Ritalin during the spring semester, but no change in attention span had been noted.

## ANDREW

Andrew was a DESC referral who was not placed in a special class following contact with DESC and was not in such a setting at the time of the the most recently available information. Andrew was referred to DESC in August, 1978, at age 4 years, 8 months by his day-care center because of poor language development, immaturity, and questions regarding readiness for kindergarten. In the DESC evaluation, speech and language deficits were identified (auditory memory, auditory processing, word retrieval, verbal expression deficits, and some articulation errors). Age-appropriate development was noted by the educational diagnostician but language and fine motor were found to be qualitatively poor. Andrew was noted to be cooperative and have good task orientation. DESC recommended placement in a regular kindergarten, with itinerant speech and language therapy and attention to motor functioning. Results of a preschool screening, done by a speech-language pathologist, indicated deficits in articulation, grammar and auditory comprehension, and some gross and fine motor coordination problems. Speech and language and primary resource rechecks were recommended for September, 1978.

In September, 1978, Andrew entered kindergarten. An ARD meeting held that month recommended that Andrew receive primary Level 3 resource assistance and speech and language resource assistance (handicapping conditions: learning disabled and speech and language impaired). No further information was available regarding this year, until April, 1979, at which time he was noted to have low scores on the visual, language, and math sections of the Metropolitan Readiness Test. At year's end, notable gains in articulation and expressive language were reported. Good progress in gross motor and fair progress in visual motor were noted, with continued difficulties in writing. It was recommended that he receive Resource Room assistance and itinerant speech and language therapy for the 1979-80 year (handicapping condition: learning disabled).

Andrew entered first grade in the fall of 1979 with speech and language resource support not resumed until January, 1980. The reason for the delay was not stated. There were no notations in the folder regarding progress or problems until the following month. At that time, his IEP was reviewed and it was recommended that speech and language services be increased. In addition, specific suggestions for classroom adjustment were given, as were suggestions to the parents about ways to encourage Andrew to return his homework. By April, reading had improved, but Andrew continued to have difficulty completing work "carefully and correctly." Deficits in following directions and copying were also reported. At year's end, the speech-language pathologist noted good progress in receptive language but persistent deficits in sequencing and expressive grammar. His teachers noted excellent progress in reading but difficulty in any task which required visual-motor skills. Continued Level 3 Resource Room assistance and itinerant speech and language therapy were recommended for 1980-81.

Andrew entered second grade at the same elementary school in September, 1980, receiving the aforementioned services. There were no notations regarding problems or progress until April, 1981, at which time his strengths were noted to be reading and math (at or above age level) and his weaknesses to be far point copying and number reversals. He continued to have mild perceptual difficulties, but these were not considered to interfere with his levels of achievement. Deficits in auditory memory for syntax, word retrieval, and oral motor skills were reported by the speech-language pathologist. It was recommended that he continue in Resource Room (but drop from Level 3 to Level 1) and itinerant speech and language therapy for 1981-82.

Andrew entered third grade in September, 1981, and was receiving Level 1 resource help. The following month, the school nurse observed Andrew in the classroom because of teacher reports of distractibility and inability to focus on task. For example, he would lift his desk with his knees, swing his arms aimlessly, ignore the teacher's reminders, and appear unable to continue his desk work independently. A parent conference was held to discuss the situation, and Level 2 resource room help was recommended for assistance in writing. In December, he was evaluated by a physician in developmental pediatrics. Results of that evaluation indicated a "CNS dysfunction" with short attention span and distractibility and auditory memory, fine motor, and oral motor problems. The physician recommended speech therapy, stimulant medication to decrease distractibility, and occupational therapy to improve spatial orientation, direction, and laterality. End-of-school reports indicated that Andrew had exhibited "excellent progress" since beginning medication, but poor work habits persisted. Andrew's teacher noted that he was still working below grade level and questioned if he should repeat third grade. This was agreed to by his parents. It was recommended that he be dropped from Resource Room help but continue with speech therapy (to work on misarticulations) and occupational therapy (Level 1) for 1982-83. He received an OT/PT evaluation in July, 1982, which determined that although his gross and fine motor skills were age-appropriate, he had needs in "motor planning" and "spatial orientation." Level 2 services were recommended for the fall.

In September, 1982, Andrew entered third grade. His teacher noted several months later that he needed to "slow down" when doing his work to avoid his frequent careless mistakes. Similar notations occurred in February, 1983, in addition to the comment that Andrew "contributes many interesting ideas" to class discussion. In April, at the ARD meeting, it was determined that because Andrew was on grade level and had improved work habits and spatial orientation, no further services were required, with the exception of itinerant speech and language therapy for 1983-84.

# PATRICK

Patrick was a DESC referral who was not placed in a special class following contact with DESC and was not in such a setting at the time of the most recent available information. Patrick was referred to DESC in September, 1978, at age 4 years, 2 months by his day-care center because of unclear speech and an inability to express himself well in sentences. His father reported no concerns about Patrick's communication skills. He claimed that within the past year, Patrick had begun using well-constructed sentences which were intelligible to family members. Both English and Chinese were spoken in the home. Language comprehension was reportedly good, and there were no difficulties at Head Start, where he had recently been enrolled. Patrick was rejected for evaluation by DESC because of only one apparent handicap (i.e., speech and language) and was subsequently referred to Hearing, Language, and Speech (HLS) Services, Department of Health.

Evaluation at HLS found hearing to be normal, with delays in receptive vocabulary and expressive language. Functioning was at the 2- to 2 1/2-year level (C.A. = 4 years, 2 months). Speech was generally intelligible, although some articulation errors were noted. Language therapy at Head Start was recommended and received.

Patrick was in kindergarten in the fall of 1979 and began receiving speech and language therapy two months later. No further information regarding his performance during the year was found in his folder.

In the first grade, Patrick began receiving itinerant Resource Room help (Level 3, handicapping condition: learning disabled) in November. He also had a speech and language evaluation at this time, but no results were available. He began receiving itinerant speech and language therapy the following month. His needs, according to his IEP, were in the areas of speech and language, visual perception, math, fine motor skills, and work habits. There were no notations or descriptions describing his progress during this year.

Patrick repeated the first grade during 1981-82. According to his IEP, he exhibited needs in the same areas as noted in 1980-81. He began receiving Title I services in October, 1981, on an itinerant basis for four hours per week and Level 3 Resource Room assistance (handicapping condition: learning disabled). During that month, he also took the Stanford-Early School Achievement Test. He generally scored at the 90th percentile or higher. In November, consultative speech therapy services were begun (handicapping condition: learning disabled). Patrick's teacher commented in February, 1982 that he was a wonderful, delightful person who found it very difficult to settle down and complete classroom assignments independently. By April, he reportedly was taking classroom work "much more seriously" but continued to often be "off with a book somewhere" instead of finishing a task. At the end of school, his teacher noted that Patrick continued to have difficulty finishing his written assignments but had shown himself to be a very good, enthusiastic student.

During the 1982-83 school year, Patrick was enrolled at the same school in the second grade. He did not receive any special services during this year. However, both in February and June of 1983, his teacher noted problems in organizing his materials and remembering what his assignments were and completing them. He was described as being "full of questions," which sometimes had little thought behind them.

## EDWARD

Edward was a DESC referral who was not placed in a special class following contact with DESC and was not in such a setting at the time of the most recently available information. Edward was referred to DESC during the 1978-79 school year at approximately age 4 but was rejected because of only one apparent handicapping condition (speech and language). In March and August, 1979, Edward received a speech, language, and hearing evaluation by the Health Department and was found to have mild difficulties in speech and language. He was at that time enrolled in a day care center. In April, 1980, he was once again evaluated, at the request of his mother. At that time he was noted to be generally intelligible and to have age-appropriate knowledge of basic language concepts. Some difficulties in structure and organization of language were observed. Monitoring of speech and language skills was recommended.

Edward was enrolled in kindergarten for the school year 1980-81. Speech and language testing done in the early fall (C. A. 5 years 8 months) indicated receptive and expressive language a year or more delayed. Apparently because of his performance and observations of awkwardness and some aggressiveness, it was recommended that he be given diagnostic speech and language and gross motor evaluations. In January, 1981, he received the MSTOI; further screening was indicated in all areas. Finally in April, 1981, a speech and language evaluation was provided. Receptive language was at 5 year, 4 months, but other language comprehension scores were at age level. His weaknesses were noted to be receptive vocabulary, memory for sentences, and confidence in himself. In June, his teacher noted an improvement in large muscle coordination and auditory skills and increased independence in making choices.

Edward was in first grade for the school year 1981-1982. In November, Edward was noted to have difficulty "sitting still" and following directions, so his teacher placed him on a "working contract" which was found to be effective. His teacher nonetheless had concerns about letter recognition skills. In January, 1982, his teacher noted that Edward was reading below expectation and that she "had some concerns" about him. In February, an EMT meeting was held to discuss Edward. The speech-language pathologist's report indicated that Edward was receiving nonhandicapped Resource Room and speech and language therapy. It was noted that he was still having processing problems. His teacher noted that he often had difficulty retaining information, following rules, getting along with his peers, and processing information. She described his speech as "slurred" and noted that he didn't enunciate clearly. His reading skills were minimal: he knew only six words and not all his letters. The teacher suggested that Edward receive a diagnostic evaluation. It was recommended that he continue with Resource Room and speech and language assistance and that he be staffed in March. In March Edward received a speech and language evaluation, and was found to have difficulties with memory and sequencing tasks. His performance on the Otis-Lennon reportedly indicated there was "no severe discrepancy " between ability and achievement. At the staffing in March, the teacher noted that Edward was often angry, he did not know all his letters, needed frequent teacher direction, and required structure for best performance. The resource room teacher reported that Edward was approximately one year below age level in visual motor skills. During the staffing, Edward's mother offered that there had been significant family conflicts during this year, which she felt may have affected Edward's performance in class and on tests. Two months later, his resource teacher noted slow progress, but the speech-language pathologist saw "good" progress in language skills. Edward continued to have difficulty with memory and sequencing skills. In June, it was recommended that Edward receive psychological testing because of poor academic progress despite speech and language and resource support.

Edward entered second grade in September, 1982, and psychological testing was done the following month. Performance indicated average abilities scores. During testing, Edward was observed to exhibit word-finding problems and to work at a noticeably slow pace. He reportedly had a significant fine visual memory problem, and difficulty processing visual and auditory stimuli. The psychologist's opinion was that Edward would qualify as an LD student. Edward's IEP in October indicated he would begin receiving one hour of Resource Room help daily to focus on deficits in fine motor, visual memory, reading, and math. Also in October, a parent conference was held, at which time the teacher discussed Edward's shift from his current second grade class to a more "structured" one where he could receive two hours of resource daily instead of his current one hour of reading. The parents were in agreement. By November, the teacher was able to report some progress in reading level, retention of sight vocabulary, and reading comprehension. Difficulties with math concepts were reported. In April, 1983, Edward's teacher reported "encouraging" signs of growth, including improving math skills and more interest in reading for enjoyment. In June, Edward's teacher noted that he had "worked hard" and his skills had improved, but he had a continued need for reinforcement in order to assure mastery of a skill. The speech-language pathologist reported excellent progress in auditory memory and processing skills and recommended dismissal from therapy. Recommendation for the 1983-84 school year was that Edward receive Resource Room support two hours daily (handicapping condition: learning disabled).